



Geographic Information System

Vector Data – Part I Lab Practice

Dr. Chan, Chun-Hsiang

Department of Geography
National Taiwan Normal University



Outline

- Download Datasets
- Display XY
- Join & Spatial Join
- Add Field & Data Types
- Select by Attribute
- Select by Location
- Calculate Geometry
- Calculate Field
- Symbology



Procedure

- Today, we would like to demonstrate a case:
 - Show the relationship between population density and YouBike 2.0 rental data in Taipei City
- You will learn:
 - 1) Data integration: join and spatial join
 - 2) Calculation: calculate field and calculate geometry
 - 3) Data selection
 - 4) Symbology

Dataset Download

Set CRS to **TWD97TM2 Taiwan**

Download Datasets

SEGS 社會經濟資料服務平台

關於平台 | 資料集 | 應用

政府資料開放平臺 DATA.GOV.TW

資料與供應資訊: 113年6月行政區人口統計_村里_臺北市

資料類型:	行政區統計
資料分類:	人口/人口概況
取得時間:	113/07/15
權責單位:	內政部統計處
資料格式:	CSV 格式
資料集名稱:	行政區人口統計
資料集摘要:	各統計期底之全國縣市、鄉鎮市區、村里之人口統計統計資料，內容為戶數、人口數、男性人口數、女性人口數。
備註:	
供應人資訊:	內政部統計處管理者
供應人單位:	內政部統計處
供應人電話:	02-23565364
是否對外公開:	公開
只公開特定對象:	否.
是否需申請:	不需申請
檔案下載或申請:	CSV下載
下載次數:	23
開放服務連結:	JSON XML GeoJSON(TWD97) GeoJSON(WGS84)

網站導覽 | X | f | Language

::: 資料集 | 高應用價值主題專區 | 資料故事館 | 互動專區 | 消息專區 | 諮詢小組 | 授權條款 | 關於平臺

家 | 資料集 | 鄉鎮市區界線(TWD97經緯度)

鄉鎮市區界線(TWD97經緯度)

我國各鄉(鎮、市、區)行政區域界線圖資

評分此資料集：
☆☆☆☆☆
平均 3.87 (246 人次投票)

瀏覽次數：240911 下載次數：76810 意見數：45

列印

主要欄位說明 *粗體欄位為資料標準欄位	TOWNID、TOWNCODE、COUNTYNAME、TOWNNAME、TOWNENG、COUNTYID、COUNTYCODE
資料資源下載網址	SHP 檢視資料 鄉(鎮、市、區)界線(TWD97經緯度)SHP#26684;式
提供機關	內政部國土測繪中心
提供機關聯絡人姓名	吳嘉隆先生 (04-22522966#340)
更新頻率	不定期更新
授權方式	政府資料開放授權條款-第1版
計費方式	免費
上架日期	2015-10-07
資料集上架方式	系統介接程式

Download Datasets

The screenshot shows the DATA.GOV.TW website interface with two dataset pages side-by-side.

YouBike2.0 臺北市公共自行車即時資訊

- Metrics: 浏覽次數: 38466, 下載次數: 10869, 意見數: 13
- 主要欄位說明: sno、sna、total、available_rent_bikes、sarea、mday、latitude、longitude、ar、sarean、snaen、aren、available_return_bikes、act、srcUpdateTime、updateTime、infoTime、infoDate
- 資料資源下載網址: [JSON](#) (selected), [檢視資料](#): YouBike2.0臺北市公共自行車即時資訊
- 提供機關: 臺北市政府交通局
- 提供機關聯絡人姓名: 陳心思 (02-27208889#6877)
- 更新頻率: 每1分
- 授權方式: 政府資料開放授權條款-第1版
- 計費方式: 免費
- 上架日期: 2020-10-20
- 資料集上架方式: 系統介接程式

臺北捷運車站資料服務

- Metrics: 浏覽次數: 1950, 下載次數: 314, 意見數: 0
- 主要欄位說明: SEQNO、StationID、StationName、StationPosition、StationAddress、BikeAllowOnHoliday、UpdateTime
- 資料資源下載網址: [CSV](#) (selected), [檢視資料](#): 臺北捷運車站資料
- 提供機關: 臺北大眾捷運股份有限公司
- 提供機關聯絡人姓名: 張立偉 (02-25363001#8676)
- 更新頻率: 不定期更新
- 授權方式: 政府資料開放授權條款-第1版
- 計費方式: 免費
- 上架日期: 2020-10-14
- 資料集上架方式: 系統介接程式

Download Datasets

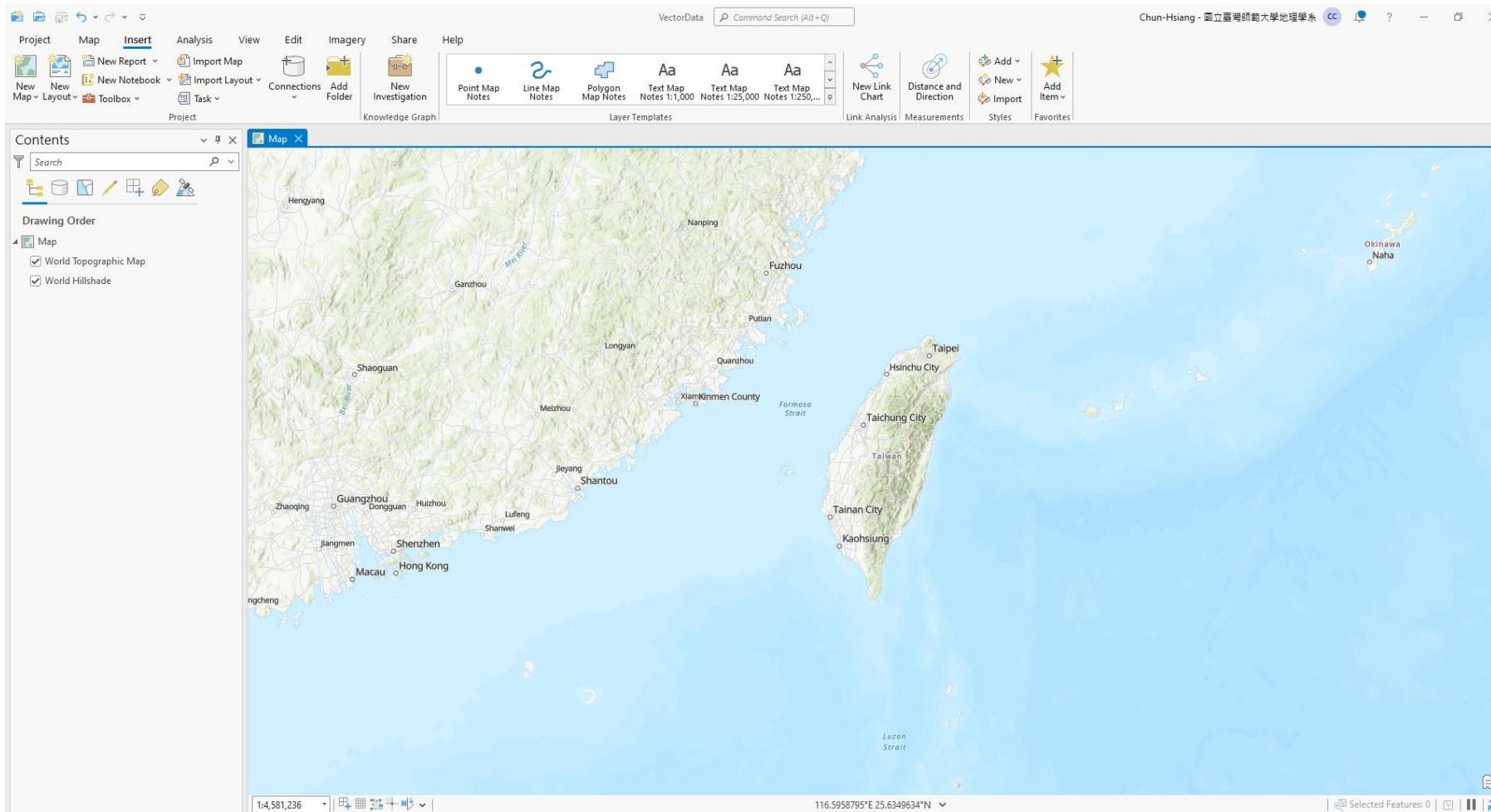
The screenshot shows the Government Data Open Platform (DATA.GOV.TW) interface. At the top, there is a navigation bar with links for '網站導覽' (Website Navigation), social media icons for X and Facebook, a language selector, and buttons for '小幫手' (Helper), '線上客服' (Online Customer Service), and '會員登入' (Member Login). Below the navigation bar is a secondary navigation menu with links for '資料集' (Datasets), '高應用價值主題專區' (High Application Value Theme专区), '資料故事館' (Data Storytelling), '互動專區' (Interactive Zone), '消息專區' (Message Zone), '諮詢小組' (Consultation Group), '授權條款' (Authorization Terms), and '關於平臺' (About the Platform). The main content area displays the dataset '村里界圖(TWD97_121分帶)'. The title is '村里界圖(TWD97_121分帶)', described as '全國村(里)界線' (National Village Boundary Lines). It has a rating section with 5 yellow stars and a note that it has been rated 4.07 by 29 users. Below this, there are statistics: '瀏覽次數: 71799', '下載次數: 16875', '意見數: 18', and a '空間資訊' (Spatial Information) button. A '列印' (Print) button is also present. A large table below contains detailed information about the dataset, including its main fields (VILLCODE, COUNTYNAME, TOWNNAME, VILLNAME, VILLENG, COUNTYID, COUNTYCODE, TOWNID, TOWNCODE, NOTE), download links for SHP and KML formats, the provider agency (Ministry of the Interior Land Survey Center), contact person (Wu Jia-Long), update frequency (Irregular updates), licensing terms (Government Data Open Authorization Terms), payment method (Free), upload date (2014-03-13), and upload method (System Interface Program).

主要欄位說明 *粗體欄位為資料標準 欄位	VILLCODE、COUNTYNAME、TOWNNAME、VILLNAME、VILLENG、COUNTYID、COUNTYCODE、TOWNID、TOWNCODE、NOTE
資料資源下載網址	SHP 檢視資料 村里界圖(TWD97_121分帶)
提供機關	內政部國土測繪中心
提供機關聯絡人姓名	吳嘉隆先生 (04-22522966#340)
更新頻率	不定期更新
授權方式	政府資料開放授權條款-第1版
計費方式	免費
上架日期	2014-03-13
資料集上架方式	系統介接程式

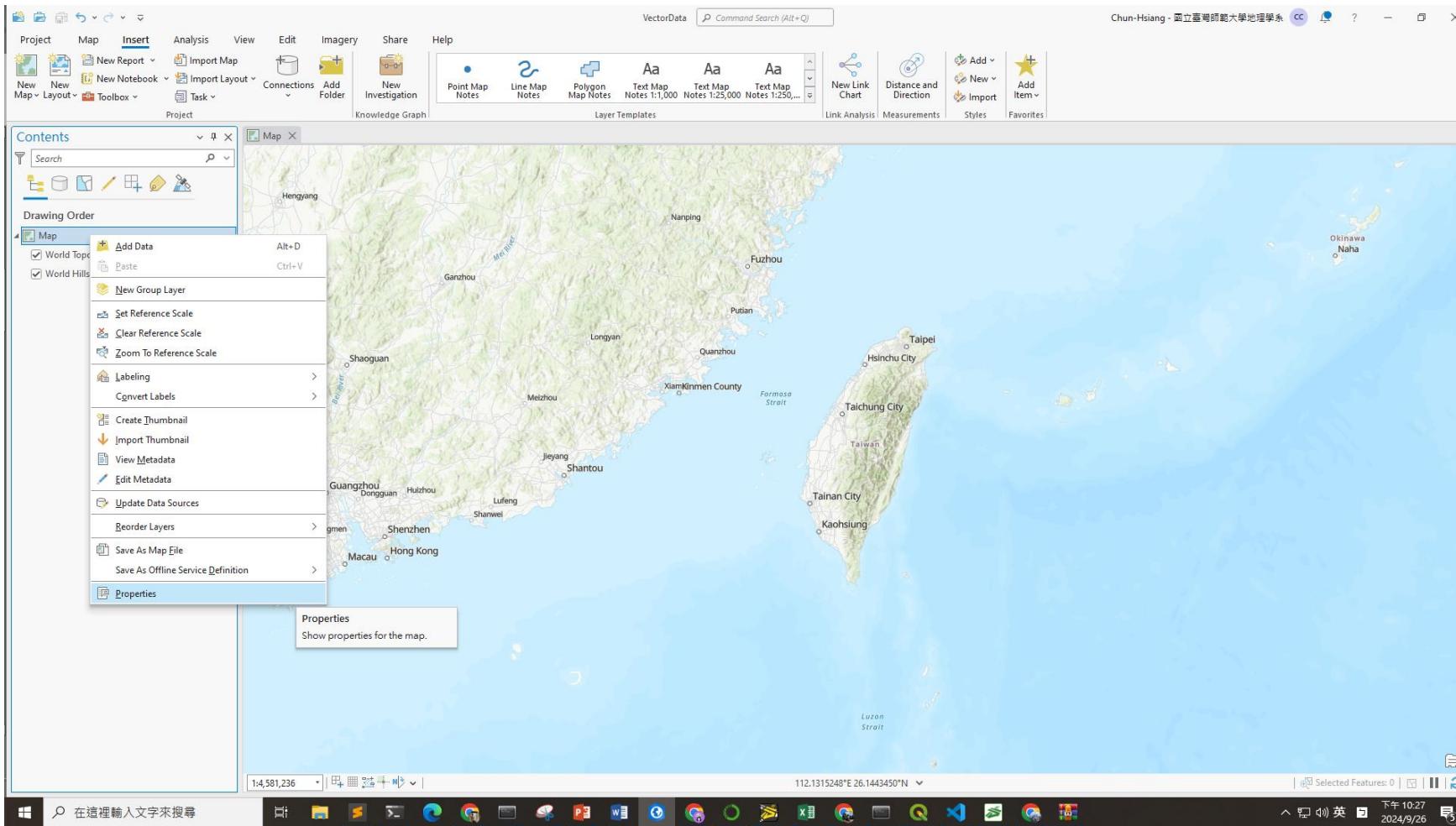
Map Settings

Set CRS to **TWD97TM2 Taiwan**

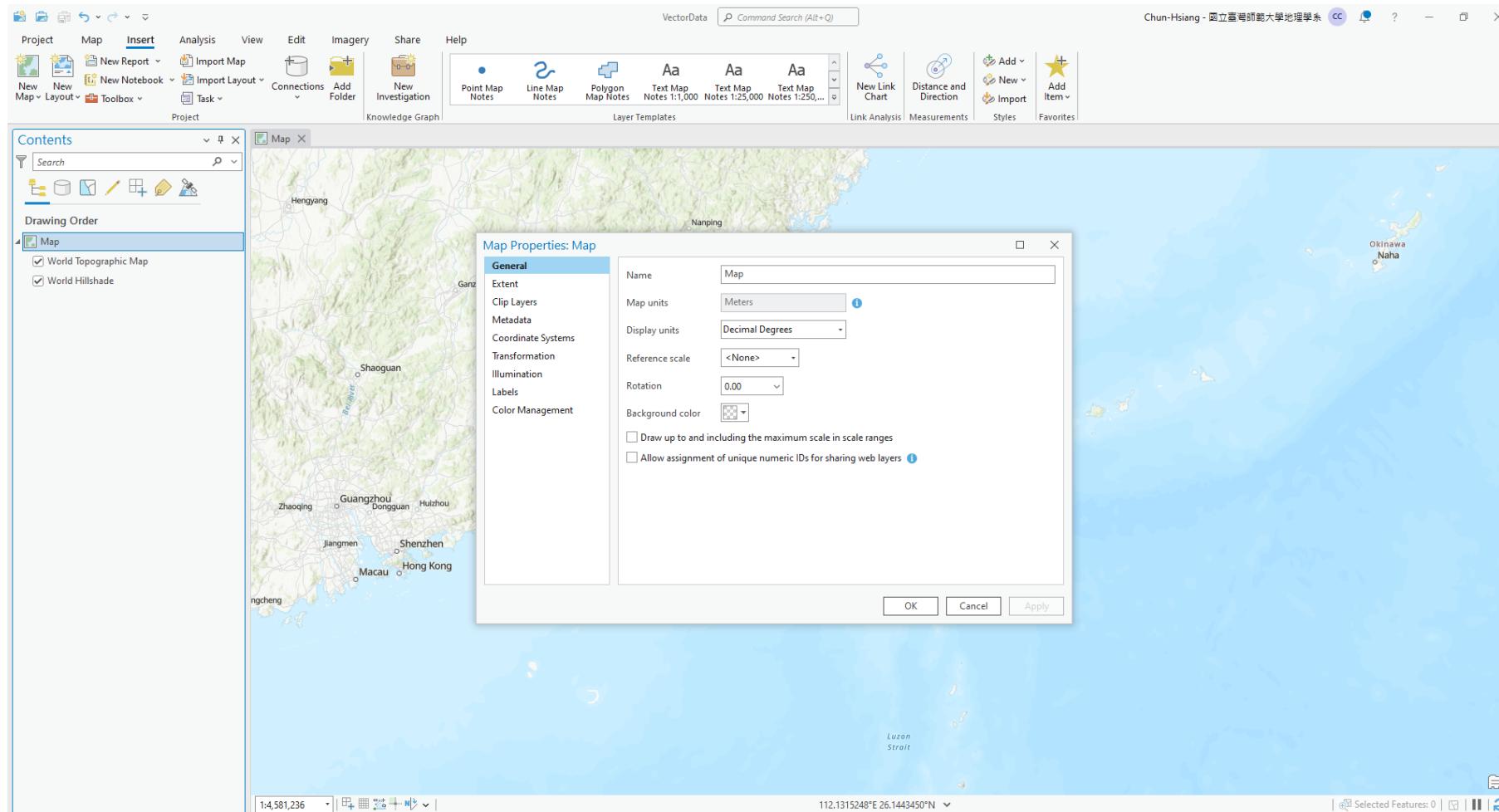
Open ArcGIS Pro



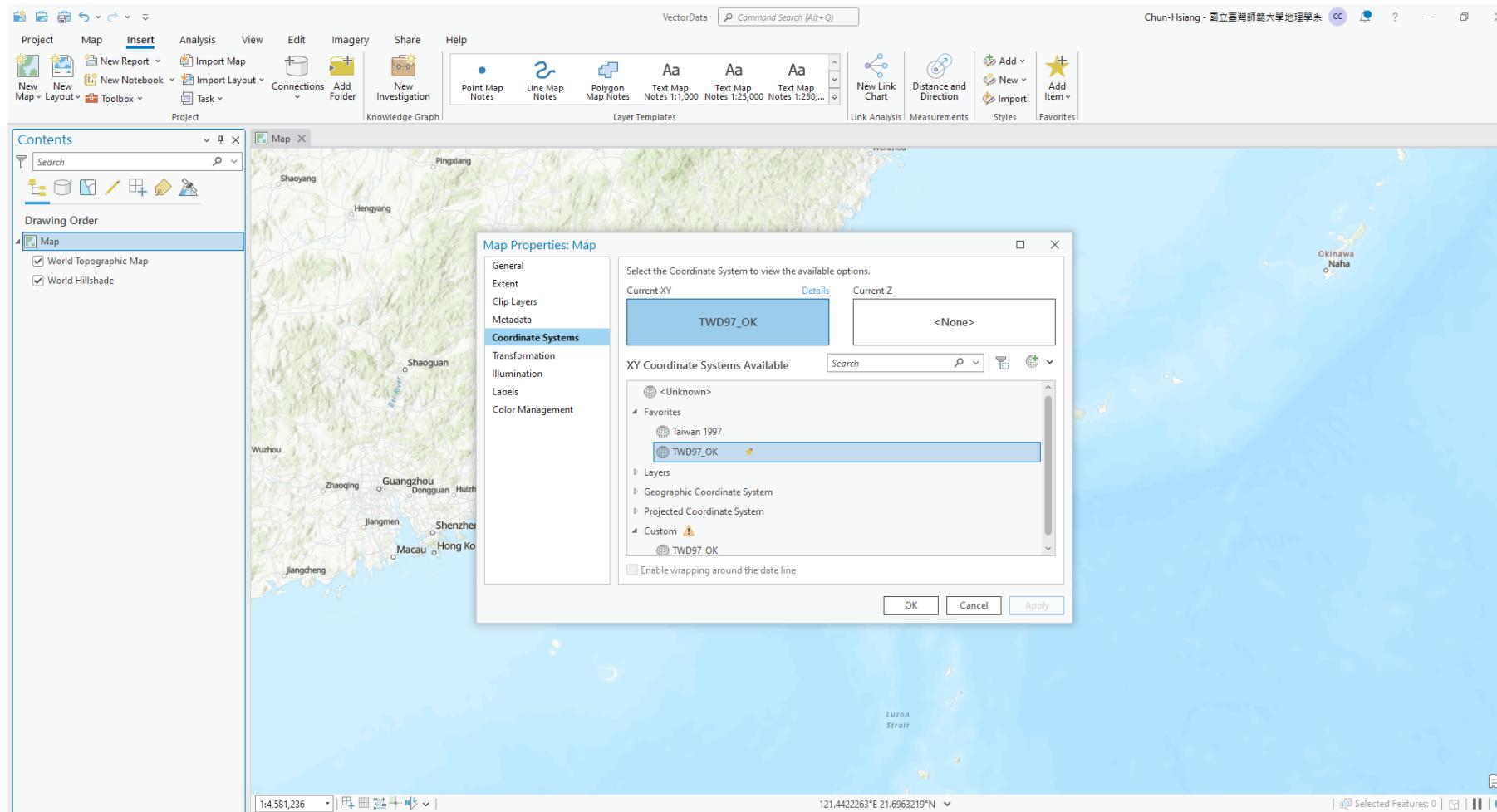
Open Properties



See Map Properties Map/ Coordinate System



Choose the self-defined TWD97TM2

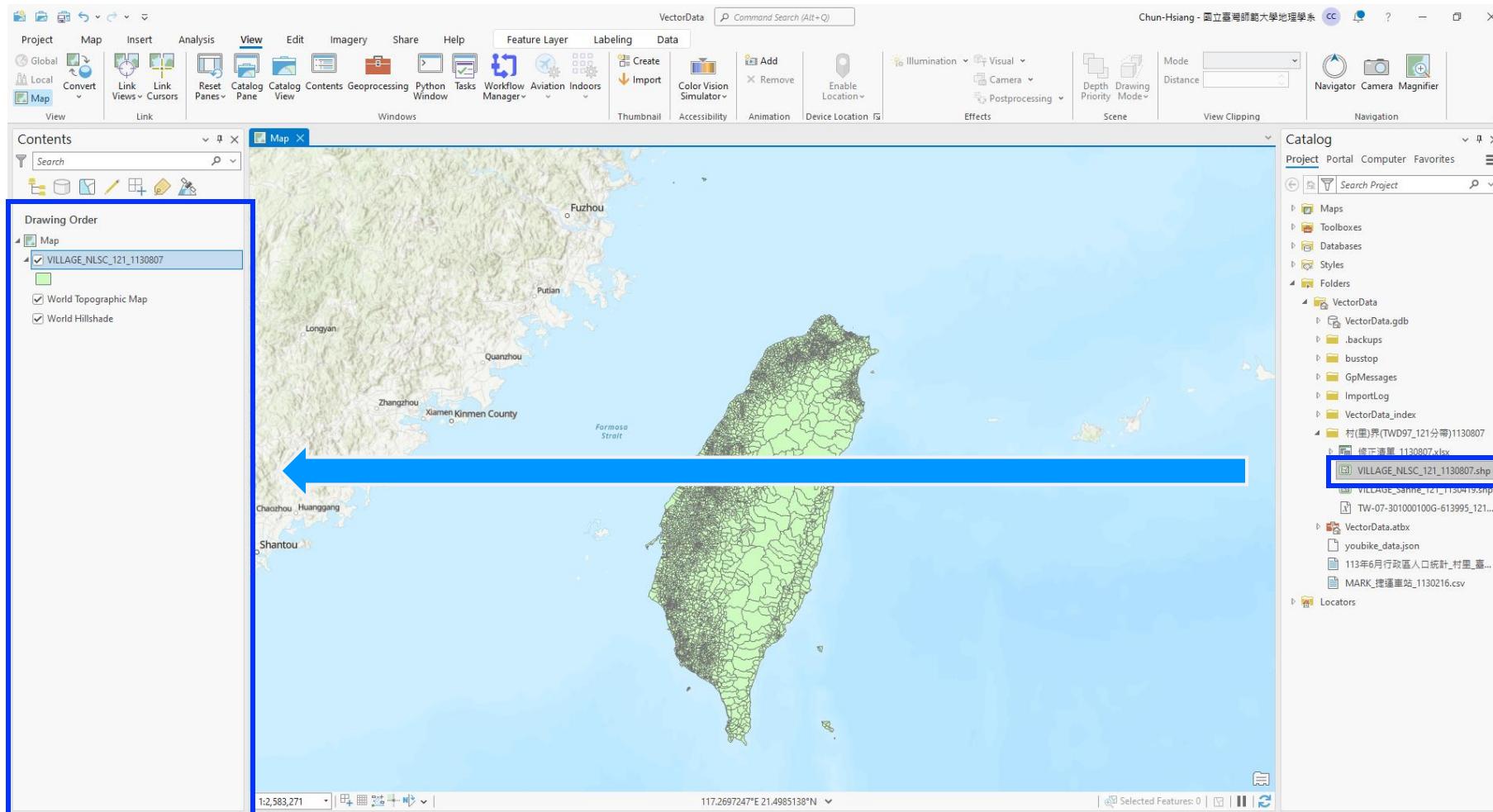


Load Data

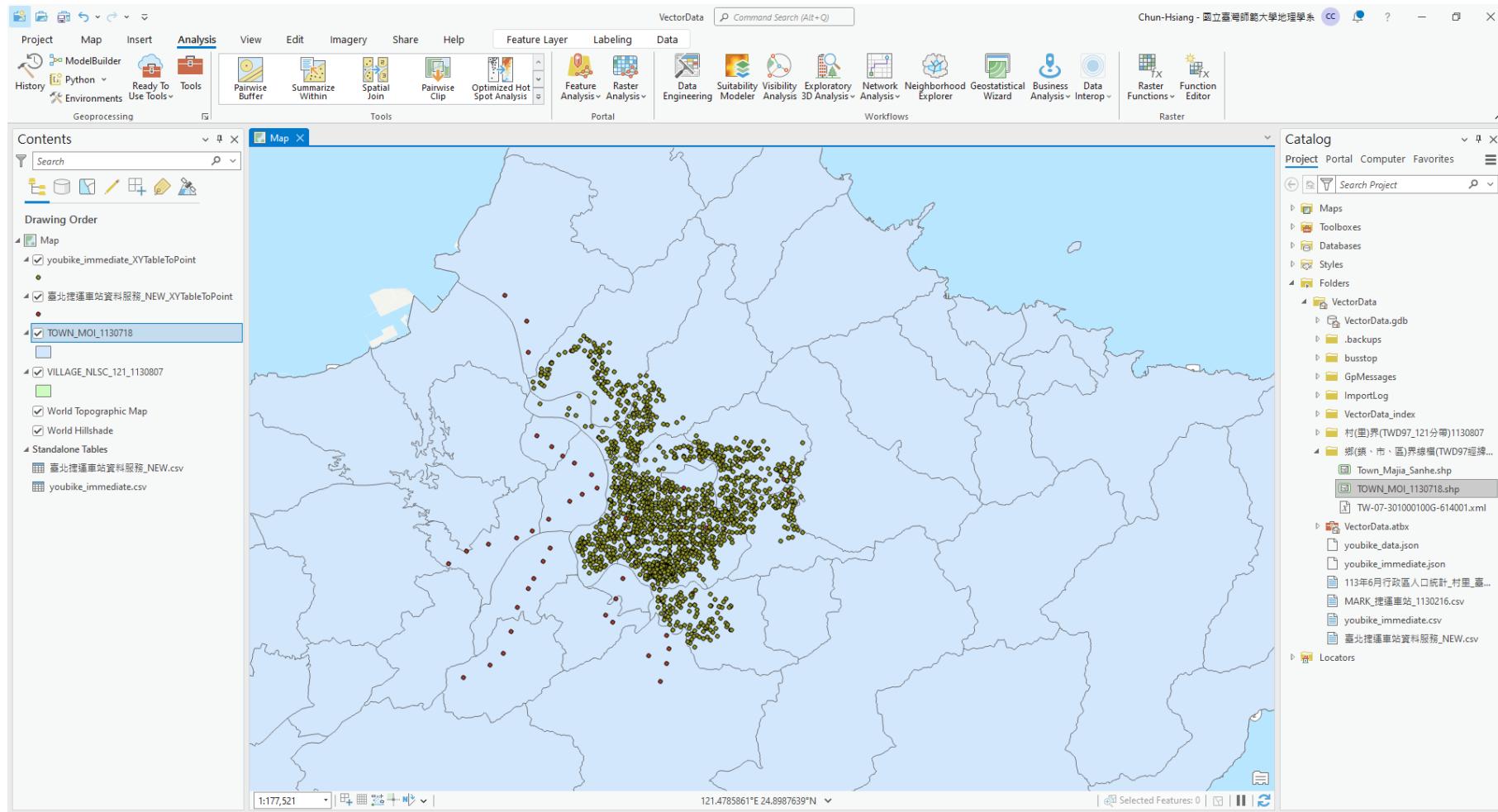
csv, shapefile, and JSON file

Add Taiwan Village Shapefile (村里界圖)

For a shapefile, ...



Load Taiwan Town Shapefile (鄉鎮市區界)



Preprocessing Taipei Metro Station

For a csv without correct format, ...

The screenshot shows an Excel spreadsheet titled "臺北捷運車站資料服務_NEW.csv - Excel". The spreadsheet contains data for Taipei Metro stations, with columns for SEQNO, StationID, StationName, StationPosition, StationAddress, and a timestamp. A callout box highlights the "StationPosition" column, which contains coordinates in a specific format.

SEQNO	StationID	StationName	StationPosition	StationAddress	
1	'BR01'	{'動物園,Taipei Zoo'}	'(121.579501,24.998205)'	'11650臺北市文山區木柵,Muzha'	
2	'BR02'	{'萬芳社區,Wanfang Community'}	'(121.573127,24.99824)'	'11652臺北市文山區萬芳社區,Wanfang Community'	
3	'BR03'	{'萬芳醫院,Wanfang Hospital'}	'(121.568088,24.99857)'	'11653臺北市文山區萬芳醫院,Wanfang Hospital'	
4	'BR04'	{'萬芳'}	'(121.558092,24.99932)'	'11696臺北市文山區萬芳'	
5	'BR05'	{'辛亥,Xinhai'}	'(121.5570455,25.005455)'	'11694臺北市文山區辛亥,Xinhai'	
6	'BR06'	{'麟光,Linguang'}	'(121.5588335,25.018495)'	'10676臺北市大安區麟光,Linguang'	
7	'BR07'	{'六張犁,Liu Zhangli'}	'(121.55302,25.02381)'	'10674臺北市大安區六張犁,Liu Zhangli'	
8	'BR08'	{'科技大樓,Technology Building'}	'(121.5434615,25.02612)'	'10667臺北市大安區科技大樓,Technology Building'	
9	'BR09,R05'	{'大安,Daan'}	'(121.54237,25.033311)'	'文湖線：10683淡水信義線：10659臺北市大安區大安,Daan'	
10	'BR10,BL15'	{'忠孝復興,Zhongxiao Fuxing'}	'(121.545026,25.041749)'	'文湖線：10654臺北市大安區忠孝東路3段302號板南線：1069臺北市大安區忠孝東路4段47號忠孝復興,Zhongxiao Fuxing'	0 20170525
11	11 'BR12'	{'中山國中,Zhongshan Junior High School'}	'(121.544215,25.060085)'	'10676臺北市中山區復興北路376號'	0 20170525
12	12 'BR13'	{'松山機場,Songshan Airport'}	'(121.55201,25.0629075)'	'10576臺北市松山區敦化北路338號'	0 20170525
13	13 'P01A'	{'子安,Tsao An'}	'(121.54679,25.070431)'	'10465臺北市中山區子安路534之1號'	0 20170525

Replace All Useless Symbols

臺北捷運車站資料服務_NEW.csv - Excel

告別您想做什麼

剪切 貼上 剪裁格式 剪貼簿 新組明體 12 A A 自動換列 運用格式 設定格式化為的條件。 設定格式化為的條件。 一般 中等 好 壞 計算方式 連結的儲存格 備註 說明文字 輸入 輸出 自動加總 插入 刪除 格式 儲存格 編輯 填滿 清除 排序與篩選 尋找與選取

D1 StationPosition

SEQNO	StationID	StationName	StationPosition	StationAddress	BikeAllowOnHoliday	UpdateTime
1	'BR01'	{動物園,Taipei Zoo}'	(121.579501,24.998205)'	'11656臺北市文山區新光路2段32號'	0	20170525
2	'BR02'	{木柵,Muzha}'	(121.573127,24.99824)'	'11656臺北市文山區木柵路4段135號'	0	20170525
3	'BR03'	{萬芳社區,Wanfang Community}'	(121.568088,24.99857)'	'11653臺北市文山區萬芳路20號'	0	20170525
4	'BR04'	{萬芳醫院,Wanfang Hospital}'	(121.558092,24.99932)'	'11696臺北市文山區興雅路3段113號'	0	20170525
5	'BR05'	{辛亥,Xinhai}'	(121.5570455,25.005555)'	'11694臺北市文山區辛亥路4段128號'	0	20170525
6	'BR06'	{麟光,Linguang}'	(121.5588335,25.018495)'	'10676臺北市大安區和平東路3段410號'	0	20170525
7	'BR07'	{六張犁,Liuzhangli}'	(121.5530225,25.02381)'	'10674臺北市大安區和平東路3段168號'	0	20170525
8	'BR08'	{科技大樓,Technology Building}'	(121.5434615,25.02612)'	'10667臺北市大安區復興南路2段235號'	0	20170525
9	'BR09,RO5'	{大安,Daan}'	(121.54237,25.033311)'	'文湖線：10683臺北市大安區信義路4段2號 淡水信義線：10658臺北市大安區信義路3段180號'	0	20170525
10	'BR10,BL15'	{忠孝復興,Zhongxiao Fuxing}'	(121.545026,25.041749)'	'文湖線：10654臺北市大安區忠孝東路3段302號 板南線：10691臺北市大安區忠孝東路4段47號'	0	20170525
11	'BR12'	{中山國中,Zhongshan Junior High School}'	(121.544215,25.06085)'	'10476臺北市中山區復興北路376號'	0	20170525
12	'BR13'	{松山機場,Songshan Airport}'	(121.55201,25.0629075)'	'10576臺北市松山區敦化北路338號'	0	20170525
13	'BR14'	{大直,Dazhi}'	(121.54679,25.07943)'	'10465臺北市中山區北安路534之1號'	0	20170525
14	'BR15'	{劍南路,Jiannan Rd.}'	(121.5555825,25.08483)'	'10464臺北市中山區北安路79號'	0	20170525
15	'BR16'	{西湖,Xihu}'	(121.567227,25.08216)'	'11493臺北市內湖區內湖路1段256號'	0	20170525
16	'BR17'	{港墘,Gangqian}'	(121.57516,25.08007)'	'11446臺北市內湖區內湖路1段663號'	0	20170525
17	'BR18'	{文德,Wende}'	(121.5849995,25.078455)'	'11475臺北市內湖區文德路214號'	0	20170525
18	'BR19'	{內湖,Nehu}'	(121.594363,25.083675)'	'11489臺北市內湖區成功路4段186號'	0	20170525
19	'BR20'	{大湖公園,Dahu Park}'	(121.602214,25.083805)'	'11477臺北市內湖區成功路5段11號'	0	20170525
20	'BR21'	{鶯洲,Huzhou}'	(121.6071455,25.07271)'	'11486臺北市內湖區康寧路3段16號'	0	20170525
21	'BR22'	{東湖,Donghu}'	(121.611535,25.067455)'	'11486臺北市內湖區康寧路3段235號'	0	20170525
22	'BR23'	{南港軟體園區,Nangang Software Park}'	(121.61525,05992)'	'11568臺北市南港區經貿二路183號'	0	20170525
23	'BR24'	{南港展覽館,Taipei Nangang Exhibition Center}'	(121.616861,25.054919)'	'文湖線：11568臺北市南港區南港路1段32號'	0	20170525
24	'BL23'	{南港展覽館,Taipei Nangang Exhibition Center}'	(121.616861,25.054919)'	'板南線：11568臺北市南港區研究院路1段1號'	1	20170525
25	'R02'	{象山,Xiangshan}'	(121.570116,25.032395)'	'11080臺北市信義區信義路5段152號B1'	1	20170525
26	'R03'	{台北101世貿,Taipei 101/World Trade Center}'	(121.563667,25.032865)'	'11049臺北市信義區信義路5段20號B1'	1	20170525
27	'R04'	{信義安和,Xinyi Anhe}'	(121.552326,25.033015)'	'10681臺北市大安區信義路4段212之1號B1'	1	20170525
28	'R06'	{大安森林公園,Daan Park}'	(121.536151,25.033225)'	'10656臺北市大安區信義路3段100號B1'	1	20170525
29	'R07'	{東門,Dongmen}'	(121.528766,25.033894)'	'10650臺北市大安區信義路2段166號B1'	1	20170525
30	'R08,R10'	{中正紀念堂,Chiang Kai-Shek Memorial Hall}'	(121.518273,25.032767)'	'10074臺北市中正區羅斯福路1段8之1號B1'	1	20170525
31	'R09'	{台大醫院,NTU Hospital}'	(121.51602,25.041399)'	'10048臺北市中正區公園路52號B1'	1	20170525
32	'D10,R11?'	{台北車站,Taipei Main Station}'	(121.517415,25.06311)'	'10041臺北市中正區忠孝西路一段40號'	0	20170525

For example, a quote symbol is useless...

The screenshot shows an Excel spreadsheet titled "臺北捷運車站資料服務_NEW.csv - Excel". The table contains columns for SEQNO, StationID, StationName, StationPosition, StationAddress, BikeAllowOnHoliday, and UpdateTime. A search and replace dialog box is open, with the "Find what" field containing "'1147'臺北市內湖區成功路5段11號" and the "Replace with" field empty. A callout box highlights the "Replace with" field with the text: "Please follow this concept to replace all useless symbols in the column."

SEQNO	StationID	StationName	StationPosition	StationAddress	BikeAllowOnHoliday	UpdateTime
1	'BR01'	{動物園,Taipei Zoo}'	'(121.579501,24.998205)'	'11656臺北市文山區新光路2段32號'	0	20170525
2	'BR02'	{木柵,Muzha}'	'(121.573127,24.99824)'	'11656臺北市文山區木柵路4段135號'	0	20170525
3	'BR03'	{萬芳社區,Wanfang Community}'	'(121.568088,24.99857)'	'11656臺北市文山區木柵路4段135號'	0	20170525
4	'BR04'	{萬芳醫院,Wanfang Hospital}'	'(121.558092,24.99932)'			
5	'BR05'	{辛亥,Xinhai}'	'(121.5570455,25.005455)'			
6	'BR06'	{麟光,Linguang}'	'(121.5588335,25.018495)'			
7	'BR07'	{六張犁,Liuzahangli}'	'(121.55302,25.02381)'			
8	'BR08'	{科技大樓,Technology Building}'	'(121.5434615,25.02612)'			
9	'BR09,R05'	{大安,Daan}'	'(121.54237,25.033311)'			
10	'BR10,BL15'	{忠孝復興,Zhongxiao Fuxing}'	'(121.545026,25.041749)'			
11	'BR12'	{中山國中,Zhongshan Junior High School}'	'(121.544215,25.06085)'			
12	'BR13'	{松山機場,Songshan Airport}'	'(121.55201,25.0629075)'			
13	'BR14'	{大直,Dazhi}'	'(121.54679,25.07943)'			
14	'BR15'	{劍南路,Jiannan Rd.)'	'(121.5555825,25.08483)'			
15	'BR16'	{西湖,Xihu}'	'(121.567227,25.08216)'			
16	'BR17'	{港墘,Gangqian}'	'(121.57516,25.08007)'			
17	'BR18'	{文德,Wende}'	'(121.5849995,25.078455)'			
18	'BR19'	{內湖,Nehu}'	'(121.594363,25.083675)'			
19	'BR20'	{大湖公園,Dahu Park}'	'(121.602214,25.083805)'			
20	'BR21'	{湖州,Huzhou}'	'(121.6071455,25.07271)'			
21	'BR22'	{東湖,Donghu}'	'(121.611535,25.067455)'			
22	'BR23'	{南港軟體園區,Nangang Software Park}'	'(121.615,25.05992)'			
23	'BR24'	{南港展覽館,Taipei Nangang Exhibition Center}'	'(121.616861,25.054919)'			
24	'BL23'	{南港展覽館,Taipei Nangang Exhibition Center}'	'(121.616861,25.054919)'			
25	'R02'	{象山,Xiangshan}'	'(121.570116,25.032395)'			
26	'R03'	{台北101世貿,Taipei 101/World Trade Center}'	'(121.563667,25.032865)'			
27	'R04'	{信義安和,Xinyi Anhe}'	'(121.552326,25.033015)'			
28	'R06'	{大安森林公園,Daan Park}'	'(121.536151,25.033225)'			
29	'R07'	{東門,Dongmen}'	'(121.528766,25.033894)'			
30	'R08,G10'	{中正紀念堂,Chiang Kai-Shek Memorial Hall}'	'(121.518273,25.032767)'			
31	'R09'	{台大醫院,NTU Hospital}'	'(121.51602,25.041399)'			
32	'D10 PT 12'	{台大車站,Taipei Main Station}'	'(121.517415,25.04631)'			

See the Results after Replacement

The screenshot shows a Microsoft Excel spreadsheet titled "臺北捷運車站資料服務_NEW.csv". The spreadsheet contains two main sections: "StationPosition" and "StationAddress". The "StationPosition" section includes columns for SEQNO, StationID, StationName, and StationPosition. The "StationAddress" section includes columns for StationAddress, BikeAllowOnHoliday, and UpdateTime. A search and replace dialog box is overlaid on the screen, indicating that 218 replacement tasks have been completed. The target for replacement is the character '號'.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	SEQNO	StationID	StationName	StationPosition	StationAddress	BikeAllowOnHoliday	UpdateTime						
2	1	'BR01'	'動物園,Taipei Zoo'	(121.579501,24.998205)	'11656臺北市文山區新光路2段32號'	0	20170525						
3	2	'BR02'	'木柵,Muzha'	(121.573127,24.99824)	'11656臺北市文山區木柵路4段135號'	0	20170525						
4	3	'BR03'	'萬芳社區,Wanfang Community'	(121.568088,24.99857)	'11653臺北市文山區萬芳路60號'	0	20170525						
5	4	'BR04'	'萬芳醫院,Wanfang Hospital'	(121.558092,24.99932)	'11696臺北市文山區興隆路3段113號'	0	20170525						
6	5	'BR05'	'辛亥,Xinhai'	(121.5570455,25.005455)		0	20170525						
7	6	'BR06'	'麟光,Linguang'	(121.5588335,25.018495)		0	20170525						
8	7	'BR07'	'六張犁,Liu Zhangli'	(121.55302,25.02381)		0	20170525						
9	8	'BR08'	'(科技大樓,Technology Building)'	(121.5434615,25.02612)		0	20170525						
10	9	'BR09,R05'	'(大安,Daan)'	(121.54237,25.033311)		0	20170525						
11	10	'BR10,BL15'	'(忠孝復興,Zhongxiao Fuxing)'	(121.545026,25.041749)		0	20170525						
12	11	'BR12'	'(中山國中,Zhongshan Junior High School)'	(121.544215,25.06085)		0	20170525						
13	12	'BR13'	'(松山機場,Songshan Airport)'	(121.55201,25.0629075)		0	20170525						
14	13	'BR14'	'(大直,Dazhi)'	(121.54679,25.07943)		0	20170525						
15	14	'BR15'	'(劍南路,Jianan Rd.)'	(121.5555825,25.08483)		0	20170525						
16	15	'BR16'	'(西湖,Xihu)'	(121.567227,25.08216)		0	20170525						
17	16	'BR17'	'(港墘,Gangqian)'	(121.57516,25.08007)		0	20170525						
18	17	'BR18'	'(文德,Wende)'	(121.5849995,25.078455)		0	20170525						
19	18	'BR19'	'(內湖,Nehu)'	(121.594363,25.083675)		0	20170525						
20	19	'BR20'	'(大湖公園,Dahu Park)'	(121.602214,25.083805)		0	20170525						
21	20	'BR21'	'(湖州,Huzhou)'	(121.6071455,25.07271)		0	20170525						
22	21	'BR22'	'(東湖,Donghu)'	(121.611535,25.067455)		0	20170525						
23	22	'BR23'	'(南港軟體園區,Nangang Software Park)'	(121.61525,25.05992)		0	20170525						
24	23	'BR24'	'(南港展覽館,Taipei Nangang Exhibition Center)'	(121.616861,25.054919)		0	20170525						
25	24	'BL23'	'(南港展覽館,Taipei Nangang Exhibition Center)'	(121.616861,25.054919)		0	20170525						
26	25	'R02'	'(象山,Xiangshan)'	(121.570116,25.032395)		0	20170525						
27	26	'R03'	'(台北101/世貿,Taipei 101/World Trade Center)'	(121.563667,25.032865)		0	20170525						
28	27	'R04'	'(信義安和,Xinyi Anhe)'	(121.552326,25.033015)		0	20170525						
29	28	'R06'	'(大安森林公園,Daan Park)'	(121.536151,25.033225)		0	20170525						
30	29	'R07'	'(東門,Dongmen)'	(121.528766,25.033894)		0	20170525						
31	30	'R08,G10'	'(中正紀念堂,Chiang Kai-Shek Memorial Hall)'	(121.518273,25.032767)		0	20170525						
32	31	'R09'	'(台大醫院,NTU Hospital)'	(121.51602,25.041399)		0	20170525						
33	32	'P10,P112'	'(台北車站,Taipei Main Station)'	(121.517415,25.046311)		0	20170525						

After Cleaning All Useless Symbols, ...

D1	StationPosition	F	G	H	I	J	K	L	M
1	SEQNO StationID StationName StationPosition	121.545026,25.041749							
2	1 'BR01' '(動物園,Taipei Zoo)'	121.579501,24.996							
3	2 'BR02' '(木柵,Muzha)'	121.573127,24.998							
4	3 'BR03' '(萬芳社區,Wanfang Community)'	121.568088,24.998							
5	4 'BR04' '(萬芳醫院,Wanfang Hospital)'	121.558092,24.998							
6	5 'BR05' '(辛亥,Xinhai)'	121.5570455,25.004							
7	6 'BR06' '(麟光,Linguang)'	121.5588335,25.0							
8	7 'BR07' '(六張犁,Liu Zhangli)'	121.55302,25.023							
9	8 'BR08' '(科技大樓,Technology Building)'	121.5434615,25.02							
10	9 'BR09,RO5' '(大安,Daan)'	121.54237,25.033							
11	10 'BR10,BL15' '(忠孝復興,Zhongxiao Fuxing)'	121.545026,25.04							
12	11 'BR12' '(中山國中,Zhongshan Junior High School)'	121.544215,25.06							
13	12 'BR13' '(松山機場,Songshan Airport)'	121.55201,25.062							
14	13 'BR14' '(大直,Dazhi)'	121.54679,25.0794							
15	14 'BR15' '(劍南路,Jiannan Rd.)'	121.5555825,25.05							
16	15 'BR16' '(西湖,Xihu)'	121.567227,25.08							
17	16 'BR17' '(港墘,Gangqian)'	121.57516,25.080							
18	17 'BR18' '(文德,Wende)'	121.5849995,25.0							
19	18 'BR19' '(內湖,Nehu)'	121.594363,25.08							
20	19 'BR20' '(大湖公園,Dahu Park)'	121.602214,25.08							
21	20 'BR21' '(鶯洲,Huzhou)'	121.6071455,25.0							
22	21 'BR22' '(東湖,Donghu)'	121.611535,25.06							
23	22 'BR23' '(南港軟體園區,Nangang Software Park)'	121.61525,25.05992							
24	23 'BR24' '(南港展覽館,Taipei Nangang Exhibition Center)'	121.616861,25.05							
25	24 'BL23' '(南港展覽館,Taipei Nangang Exhibition Center)'	121.616861,25.05							
26	25 'R02' '(象山,Xiangshan)'	121.570116,25.032395							
27	26 'R03' '(台北101世貿,Taipei 101/World Trade Center)'	121.563667,25.03							
28	27 'R04' '(信義安和,Xinyi Anhe)'	121.552326,25.03							
29	28 'R06' '(大安森林公園,Daan Park)'	121.536151,25.03							
30	29 'R07' '(東門,Dongmen)'	121.528766,25.03							
31	30 'R08,R10' '(中正紀念堂,Chiang Kai-Shek Memorial Hall)'	121.518273,25.03							
32	31 'R09' '(台大醫院,NTU Hospital)'	121.51602,25.041							
33	32 'R10,R11,R12' '(臺北車站,Taipei Main Station)'	121.517415,25.046							

After Cleaning All Useless Symbols, ...

The screenshot shows a Microsoft Excel spreadsheet titled "臺北捷運車站資料範例 NEW.csv - Excel". The data consists of three columns: SEQNO, StationID, and StationName. A tooltip labeled "1 Insert a new column" points to the "Insert" button in the ribbon. Another tooltip labeled "2 Click 'Text to Columns'" points to the "Text to Columns" icon in the ribbon's "Data" tab.

Text to Columns

資料剖析
將單一文字欄分割成多個欄。

例如，您可以將姓名欄分割成姓氏欄和名字欄。

您可以選擇分割方式：固定寬度，或於每個逗號、句號或其他字元後分割。

資料剖析
將單一文字欄分割成多個欄。

例如，您可以將姓名欄分割成姓氏欄和名字欄。

您可以選擇分割方式：固定寬度，或於每個逗號、句號或其他字元後分割。

1 Insert a new column

2 Click "Text to Columns"

SEQNO	StationID	StationName	StationPosition	BikeAllowOnHoliday	UpdateTime
1	'BR01'	'(動物園,Taipei Zoo)'	121.579501,24.998	0	20170525
2	'BR02'	'(木柵,Muzha)'	121.573127,24.998	0	20170525
3	'BR03'	'(萬芳社區,Wanfang Community)'	121.568088,24.998	0	20170525
4	'BR04'	'(萬芳醫院,Wanfang Hospital)'	121.558092,24.998	0	20170525
5	'BR05'	'(辛亥,Xinhai)'	121.5570455,25.023	0	20170525
6	'BR06'	'(麟光,Linguang)'	121.5588335,25.023	0	20170525
7	'BR07'	'(六張犁,Liuzhangli)'	121.55302,25.023	0	20170525
8	'BR08'	'(科技大樓,Technology Building)'	121.5434615,25.02612	0	20170525
9	'BR09,R05'	'(大安,Daan)'	121.54237,25.033311	0	20170525
10	'BR10,BL15'	'(忠孝復興,Zhongxiao Fuxing)'	121.545026,25.041749	0	20170525
11	'BR12'	'(中山國中,Zhongshan Junior High School)'	121.544215,25.060805	0	20170525
12	'BR13'	'(松山機場,Songshan Airport)'	121.55201,25.0629075	0	20170525
13	'BR14'	'(大直,Dazhi)'	121.54679,25.07943	0	20170525
14	'BR15'	'(劍南路,Jiannan Rd.)'	121.5555825,25.08483	0	20170525
15	'BR16'	'(西湖,Xihu)'	121.567227,25.08216	0	20170525
16	'BR17'	'(港墘,Gangqian)'	121.57516,25.08007	0	20170525
17	'BR18'	'(文德,Wende)'	121.5849995,25.078455	0	20170525
18	'BR19'	'(內湖,Nehu)'	121.594363,25.083675	0	20170525
19	'BR20'	'(大湖公園,Dahu Park)'	121.602214,25.083805	0	20170525
20	'BR21'	'(鶯洲,Huzhou)'	121.6071455,25.07271	0	20170525
21	'BR22'	'(東湖,Donghu)'	121.611535,25.067455	0	20170525
22	'BR23'	'(南港軟體園區,Nangang Software Park)'	121.6115,25.05992	0	20170525
23	'BR24'	'(南港展覽館,Taipei Nangang Exhibition Center)'	121.616861,25.054919	0	20170525
24	'BL23'	'(南港展覽館,Taipei Nangang Exhibition Center)'	121.616861,25.054919	1	20170525
25	'R02'	'(象山,Xiangshan)'	121.570116,25.032395	1	20170525
26	'R03'	'(台北101世貿,Taipei 101/World Trade Center)'	121.563667,25.032865	1	20170525
27	'R04'	'(信義安和,Xinyi Anhe)'	121.55236,25.033015	1	20170525
28	'R06'	'(大安森林公園,Daan Park)'	121.536151,25.033225	1	20170525
29	'R07'	'(東門,Dongmen)'	121.528766,25.033894	1	20170525
30	'R08,R10'	'(中正紀念堂,Chiang Kai-Shek Memorial Hall)'	121.518273,25.032767	1	20170525
31	'R09'	'(台大醫院,NTU Hospital)'	121.51602,25.041399	1	20170525
32	'D10,R11?'	'(台北車站,Taipei Main Station)'	121.517415,25.04631	0	20170525

Select “delimiter”

臺北捷運車站資料服務_NEW.csv - Excel

資料 | 校閱 | 檢視 | 說明 | 請告诉我我想做什麼

資料 | 資料剖析 | 快速填入 | 移除重複項 | 資料驗證 | 合併彙算 | 關聯函數 | 管理資料模型 | 模擬分析 | 預測 | 工作表 | 組成群組 | 取消群組 | 小計 | 大綱 | 顯示詳細資料 | 關閉詳細資料 | 顯示更多詳細資料 | 關閉更多詳細資料

D1 StationPosition

SEQNO	StationID	StationName	StationPosition	StationAddress	BikeAllowOnHoliday	UpdateTime
1	'BR01'	{動物園,Taipei Zoo}'	121.579501	資料剖析精靈 - 步驟 3 之 1	0	20170525
2	'BR02'	{木柵,Muzha}'	121.573127	資料剖析精靈判定資料類型為分隔符號。	0	20170525
3	'BR03'	{萬芳社區,Wanfang Community}'	121.568088	若一切設定無誤，請選取[下一步]，或選取適當的資料類別。	0	20170525
4	'BR04'	{萬芳醫院,Wanfang Hospital}'	121.558092	原始資料類型	0	20170525
5	'BR05'	{辛亥,Xinhai}'	121.557045	請選擇最適合剖析您的資料的檔案類型:	0	20170525
6	'BR06'	{麟光,Linguang}'	121.558833	<input checked="" type="radio"/> 分隔符號(D) - 用分隔字元，如逗號或 TAB 鍵，區分每一個欄位。	0	20170525
7	'BR07'	{六張犁,Liuzahangl}'	121.553202	<input type="radio"/> 固定寬度(W) - 每個欄位固定，欄位間以空格區分。	0	20170525
8	'BR08'	{科技大樓,Technology Building}'	121.543461	121.542372	0	20170525
9	'BR09,BR05'	{大安,Daan}'	121.542372	大安區信義路4段2號	0	20170525
10	'BR10,BL15'	{忠孝復興,Zhongxiao Fuxing}'	121.545026	北市大安區信義路3段180號	0	20170525
11	'BR12'	{中山國中,Zhongshan Junior High School}'	121.544215	大安區忠孝東路3段302號	0	20170525
12	'BR13'	{松山機場,Songshan Airport}'	121.552012	大安區忠孝東路4段47號	0	20170525
13	'BR14'	{大直,Dazhi}'	121.546794	東北一路376號	0	20170525
14	'BR15'	{劍南路,Jianan Rd.}'	121.555582	七北二路338號	0	20170525
15	'BR16'	{西湖,Xihu}'	121.567227	安一路534之1號	0	20170525
16	'BR17'	{港墘,Gangqian}'	121.575164	安一路798號	0	20170525
17	'BR18'	{文德,Wende}'	121.584999	胡路1段256號	0	20170525
18	'BR19'	{內湖,Nehui}'	121.594363	胡路1段63號	0	20170525
19	'BR20'	{大湖公園,Dahu Park}'	121.602214	惠路214號	0	20170525
20	'BR21'	{葫洲,Huzhou}'	121.6071455,25.07271	力路4段186號	0	20170525
21	'BR22'	{東湖,Donghu}'	121.611535,25.067455	力路5段11號	0	20170525
22	'BR23'	{南港軟體園區,Nangang Software Park}'	121.615,25.05929	力路5段11號	0	20170525
23	'BR24'	{南港展覽館,Taipei Nangang Exhibition Center}'	121.616861,25.054919	11568臺北市南港區經貿二路183號	0	20170525
24	'BL23'	{南港展覽館,Taipei Nangang Exhibition Center}'	121.616861,25.054919	文湖線: 11568臺北市南港區南港路1段32號	0	20170525
25	'R02'	{窮山,Xiangshan}'	121.570116,25.032395	板南線: 11568臺北市南港區研究院路1段1號	1	20170525
26	'R03'	{台北101/世貿,Taipei 101/World Trade Center}'	121.563667,25.032865	11080臺北市信義區信義路5段152號B1'	1	20170525
27	'R04'	{信義安和,Xinyi Anhe}'	121.552326,25.033015	11049臺北市信義區信義路5段20號B1'	1	20170525
28	'R06'	{大安森林公園,Daan Park}'	121.536151,25.033225	10681臺北市大安區信義路4段212之1號B1'	1	20170525
29	'R07'	{東門,Dongmen}'	121.528766,25.033894	10656臺北市大安區信義路3段100號B1'	1	20170525
30	'R08,G10'	{中正紀念堂,Chiang Kai-Shek Memorial Hall}'	121.518273,25.032767	10650臺北市大安區信義路2段166號B1'	1	20170525
31	'R09'	{台大醫院,NTU Hospital}'	121.51602,25.041399	10074臺北市中正區羅斯福路1段8之1號B1'	1	20170525
32	'P10,P11,P12'	{台大車站,Taipei Main Station}'	121.517415,25.04631	10048臺北市中正區公園路52號B1'	1	20170525
33				10041臺北市中正區忠孝西路1段10號	0	20170525

臺北捷運車站資料服務_NEW

Select “comma”

The screenshot shows an Excel spreadsheet titled "臺北捷運車站資料服務_NEW.csv - Excel". The data consists of 33 rows of station information, with columns for SEQNO, StationID, StationName, StationPosition, StationAddress, BikeAllowOnHoliday, and UpdateTime. The "StationPosition" column contains latitude and longitude values. A context menu is open over the first value in this column, "121.579501", with the title "資料剖析 - 步驟 3 之 2". The menu includes options for "Tab" (selected), "分號(M)", "逗點(C)", "空格(S)", and "其他(O)". Below the menu, a preview pane displays the analyzed data, showing the original value followed by its breakdown into components like "121.579501 24.998205". The preview pane also includes buttons for "取消", "< 上一步(B)", "下一步(N) >", and "完成(F)".

Next and Complete

Screenshot of Microsoft Excel showing the 'StationPosition' sheet. A context menu is open over the 'StationAddress' column, specifically over the cell containing '忠孝復興站'. The menu is titled '資料副檔 - 步驟 3 之 3' and includes options like '一般(G)', '文字(D)', '日期(D): YMD', and '不僅此一項(I)'. Below the menu, a preview window shows various address entries. The main table contains 33 rows of data, each with a SEQNO, StationID, StationName, StationPosition, StationAddress, BikeAllowOnHoliday, and UpdateTime.

SEQNO	StationID	StationName	StationPosition	StationAddress	BikeAllowOnHoliday	UpdateTime
1	'BR01'	'動物園,Taipei Zoo'	121.579501	資料副檔 - 步驟 3 之 3	0	20170525
2	'BR02'	'木柵,Muzha'	121.573127	忠路2段32號	0	20170525
3	'BR03'	'萬芳社區,Wanfang Community'	121.568088	冊路4段135號	0	20170525
4	'BR04'	'萬芳醫院,Wanfang Hospital'	121.558092	芳路60號	0	20170525
5	'BR05'	'辛亥,Xinhai'	121.557045	籜路3段113號	0	20170525
6	'BR06'	'麟光,Linguang'	121.558833	忠路4段128號	0	20170525
7	'BR07'	'六張犁,Liuzaigli'	121.553027	平東路3段410號	0	20170525
8	'BR08'	'科技大樓,Technology Building'	121.543461	平東路3段168號	0	20170525
9	'BR09,R05'	'大安,Daan'	121.542371	興南路2段35號	0	20170525
10	'BR10,BL15'	'忠孝復興,Zhongxiao Fuxing'	121.545026	大安區信義路4段2號	0	20170525
11	'BR12'	'中山國中, Zhongshan Junior High School'	121.544215	七市大安區信義路3段180號	0	20170525
12	'BR13'	'松山機場,Songshan Airport'	121.552011	大安區忠孝東路3段302號	0	20170525
13	'BR14'	'大直,Dazhi'	121.546791	大安區忠孝東路4段47號	0	20170525
14	'BR15'	'劍南路,Jianan Rd.'	121.555582	忠北路376號	0	20170525
15	'BR16'	'西湖,Xihu'	121.567227	七北路338號	0	20170525
16	'BR17'	'港墘,Gangqian'	121.575161	安一路534之一號	0	20170525
17	'BR18'	'文德,Wende'	121.584995	安一路798號	0	20170525
18	'BR19'	'內湖,Nehu'	121.594363	胡路1段256號	0	20170525
19	'BR20'	'大湖公園,Dahu Park'	121.602214	胡路1段663號	0	20170525
20	'BR21'	'葫洲,Huzhou'	121.6071455,25.07271	慈路214號	0	20170525
21	'BR22'	'東湖,Donghu'	121.611535,25.067455	力路4段186號	0	20170525
22	'BR23'	'南港軟體園區,Nangang Software Park'	121.615,25.05992	力路5段11號	0	20170525
23	'BR24'	'南港展覽館,Taipei Nangang Exhibition Center'	121.616861,25.054919	力路5段11號	0	20170525
24	'BL23'	'南港展覽館,Taipei Nangang Exhibition Center'	121.616861,25.054919	11486臺北市內湖區康寧路3段16號	0	20170525
25	'R02'	'象山,Xiangshan'	121.570116,25.032395	11486臺北市內湖區康寧路3段235號	0	20170525
26	'R03'	'台北101/世貿,Taipei 101/World Trade Center'	121.563667,25.032865	11568臺北市南港區經貿二路183號	0	20170525
27	'R04'	'信義安和,Xinyi Anhe'	121.552326,25.033015	文湖線：11568臺北市南港區南港路1段32號	0	20170525
28	'R06'	'大安森林公園, Daan Park'	121.536151,25.033225	板南線：11568臺北市南港區研究院路1段1號	1	20170525
29	'R07'	'東門,Dongmen'	121.528766,25.033894	11080臺北市信義區信義路5段152號B1'	1	20170525
30	'R08,G10'	'中正紀念堂, Chiang Kai-Shek Memorial Hall'	121.518273,25.032767	11049臺北市信義區信義路5段20號B1'	1	20170525
31	'R09'	'台大醫院,NTU Hospital'	121.51602,25.041399	10681臺北市大安區信義路4段212之1號B1'	1	20170525
32	'R10,R11'	'台北車站,Taipei Main Station'	121.517415,25.04631	10656臺北市大安區信義路3段100號B1'	1	20170525
33				10650臺北市大安區信義路2段166號B1'	1	20170525
				10074臺北市中正區羅斯福路1段3之1號B1'	1	20170525
				10048臺北市中正區公園路52號B1'	1	20170525
				10041臺北市中正區中華路一段140號	0	20170525

Rename the Columns

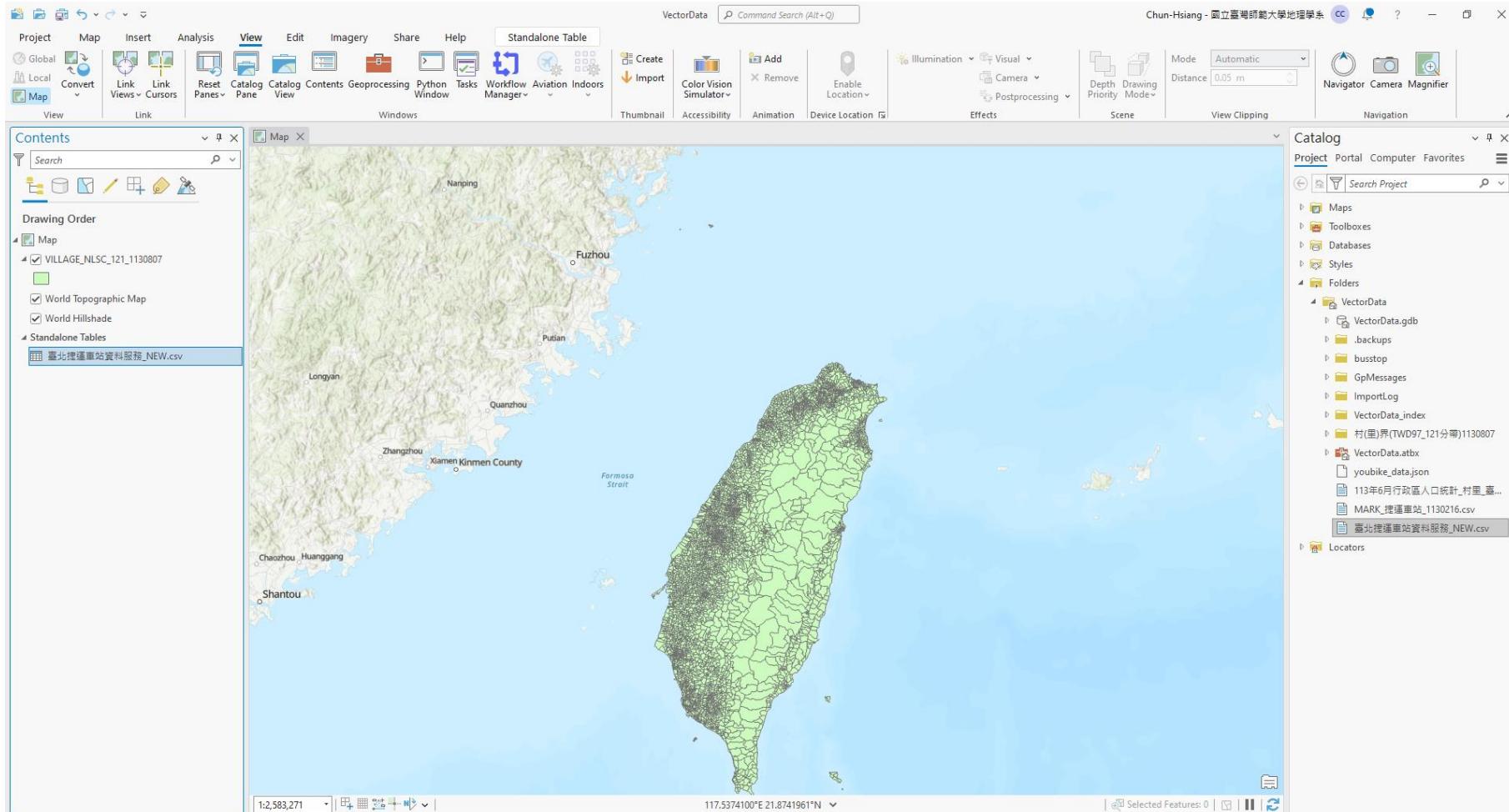
SEQNO	StationID	StationName	StationPosition	StationAddress	BikeAllowOnHoliday	UpdateTime
1	'BR01'	{'動物園,Taipei Zoo'}	121.579501	1656臺北市文山區新光路2段32號	0	20170525
2	'BR02'	{'木柵,Muzha'}	121.573127	1656臺北市文山區木柵路4段135號	0	20170525
3	'BR03'	{'萬芳社區,Wanfang Community'}	121.568088	1653臺北市文山區萬芳路60號	0	20170525
4	'BR04'	{'萬芳醫院,Wanfang Hospital'}	121.558092	1696臺北市文山區興隆路3段113號	0	20170525
5	'BR05'	{'辛亥,Xinhai'}	121.5570455	1694臺北市文山區辛亥路4段128號	0	20170525
6	'BR06'	{'麟光,Linguang'}	121.5588335	0676臺北市大安區和平東路3段410號	0	20170525
7	'BR07'	{'六張犁,Liuzaohli'}	121.55302	0674臺北市大安區和平東路3段168號	0	20170525
8	'BR08'	{'科技大樓,Technology Building'}	121.5434615	0667臺北市大安區復興南路2段235號	0	20170525
9	'BR09,BR05'	{'大安,Daan'}	121.54237	文湖線：10683臺北市大安區信義路4段2號 淡水信義線：10658臺北市大安區信義路3段180號	0	20170525
10	'BR10,BL15'	{'忠孝復興,Zhongxiao Fuxing'}	121.545026	忠孝線：10654臺北市大安區忠孝東路3段302號 南線：10691臺北市大安區忠孝東路4段47號	0	20170525
11	'BR12'	{'中山國中,Zhongshan Junior High School'}	121.544215	0476臺北市中山區復興北路376號	0	20170525
12	'BR13'	{'松山機場,Songshan Airport'}	121.55201	0576臺北市松山區敦化北路338號	0	20170525
13	'BR14'	{'大直,Dazhi'}	121.54679	0465臺北市中山區北安路534之1號	0	20170525
14	'BR15'	{'劍南路,Jianan Rd.'}	121.5555825	0464臺北市中山區北安路798號	0	20170525
15	'BR16'	{'西湖,Xihu'}	121.567227	1493臺北市內湖區內湖路1段256號	0	20170525
16	'BR17'	{'港墘,Gangqian'}	121.57516	050800714465臺北市內湖區內湖路1段63號	0	20170525
17	'BR18'	{'文德,Wende'}	121.5849995	050784551475臺北市內湖區文德路214號	0	20170525
18	'BR19'	{'內湖,Nehu'}	121.594363	050836751489臺北市內湖區成功路4段186號	0	20170525
19	'BR20'	{'大湖公園,Dahu Park'}	121.602214	050838051477臺北市內湖區成功路5段11號	0	20170525
20	'BR21'	{'葫洲,Huzhou'}	121.6071455	05072711486臺北市內湖區康寧路3段16號	0	20170525
21	'BR22'	{'東湖,Donghu'}	121.611535	050674551486臺北市內湖區康寧路3段235號	0	20170525
22	'BR23'	{'南港軟體園區,Nangang Software Park'}	121.616861	05059921486臺北市南港區經貿二路183號	0	20170525
23	'BR24'	{'南港展覽館,Taipei Nangang Exhibition Center'}	121.616861	050549191486臺北市南港區信義路1段32號	0	20170525
24	'BL23'	{'南港展覽館,Taipei Nangang Exhibition Center'}	121.570116	050549191486臺北市南港區研究院路1段1號	1	20170525
25	'R02'	{'窮山,Xiangshan'}	121.563667	050323951486臺北市南港區信義路5段152號B1	1	20170525
26	'R03'	{'台北101/世貿,Taipei 101/World Trade Center'}	121.552326	050328651049臺北市信義區信義路5段20號B1	1	20170525
27	'R04'	{'信義安和,Xinyi Anhe'}	121.536151	0503301510681臺北市大安區信義路4段21之1號B1	1	20170525
28	'R06'	{'大安森林公园,Daan Park'}	121.528766	0503322510656臺北市大安區信義路3段100號B1	1	20170525
29	'R07'	{'東門,Dongmen'}	121.518273	0503389410650臺北市大安區信義路2段166號B1	1	20170525
30	'R08,G10'	{'中正紀念堂,Chiang Kai-Shek Memorial Hall'}	121.51602	0503276710074臺北市中正區羅斯福路1段3之1號B1	1	20170525
31	'R09'	{'台大醫院,NTU Hospital'}	121.517415	0504139910048臺北市中正區公園路52號B1	1	20170525
32	'R10 PT 12'	{'台大車站,Taipei Main Station'}		050463110041臺北市中正區忠孝西路一段50號	0	20170525

Data Preprocessing

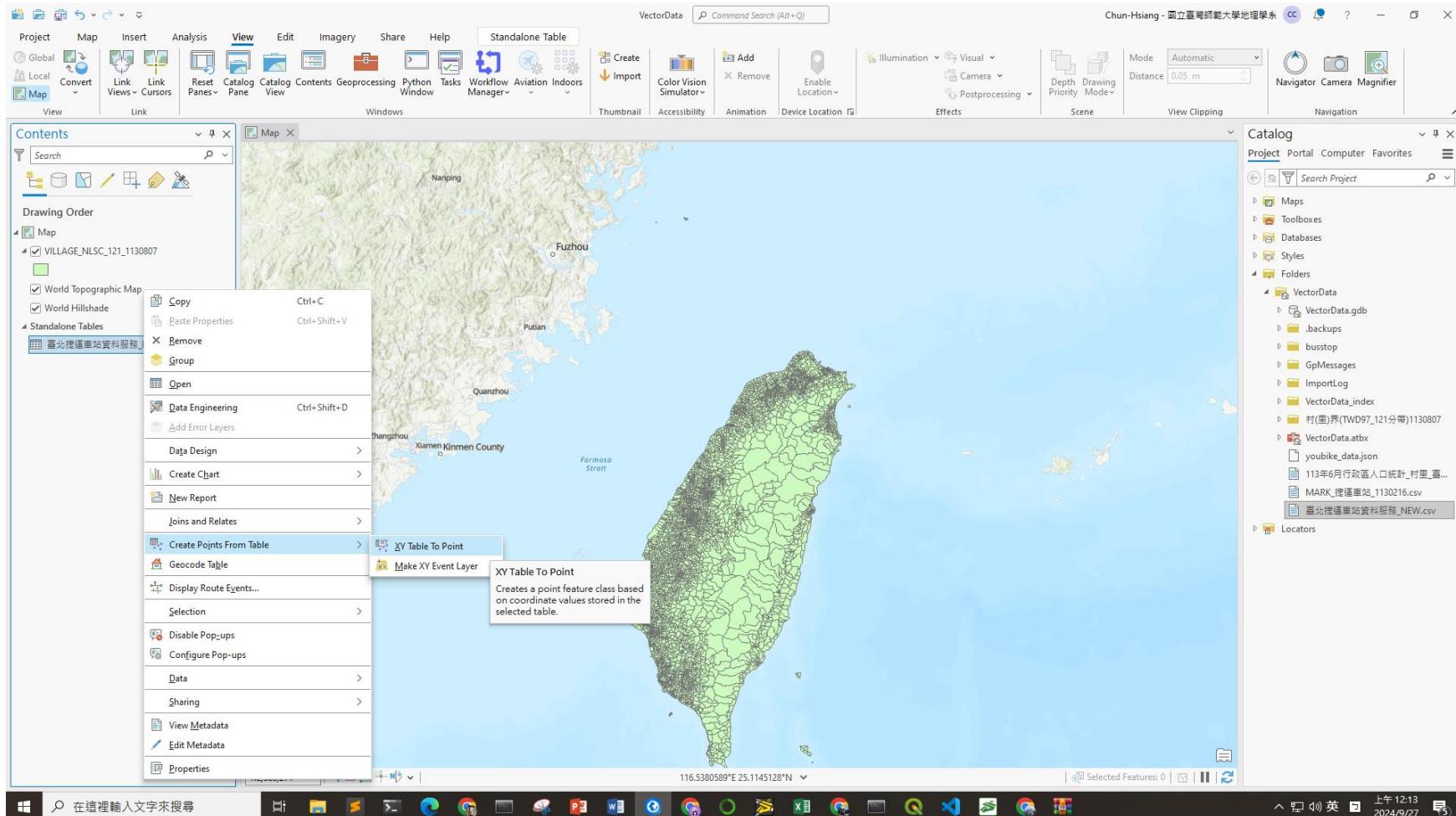
The screenshot shows a Microsoft Excel spreadsheet titled "臺北捷運車站資料服務_NEW.csv - Excel". The data is organized into several columns:

SEQNO	StationID	StationName	StationPosition_X	StationPosition_Y	StationAddress	BikeAllowOnHoliday	UpdateTime
1	'BR01'	'動物園,Taipei Zoo'	121.579501	24.998205	'11656臺北市文山區新光路2段32號'	0	20170525
2	'BR02'	'(木柵,Muzha)'	121.573127	24.99824	'11656臺北市文山區木柵路4段135號'	0	20170525
3	'BR03'	'萬芳社區,Wanfang Community'	121.568088	24.99857	'11653臺北市文山區萬芳路60號'	0	20170525
4	'BR04'	'(萬芳醫院,Wanfang Hospital)'	121.558092	24.99932	'11696臺北市文山區興隆路3段113號'	0	20170525
5	'BR05'	'(辛亥,Xinhai)'	121.5570455	25.005455	'11694臺北市文山區辛亥路4段128號'	0	20170525
6	'BR06'	'(麟光,Linguang)'	121.5588335	25.018495	'10676臺北市大安區和平東路3段410號'	0	20170525
7	'BR07'	'(六張犁,LiuZHANGLI)'	121.55302	25.02381	'10674臺北市大安區和平東路3段168號'	0	20170525
8	'BR08'	'(科技大樓,Technology Building)'	121.5434615	25.02612	'10667臺北市大安區復興南路2段235號'	0	20170525
9	'BR09,BR05'	'(大安,Daan)'	121.54237	25.033311	'文湖線：10683臺北市大安區信義路4段2號 淡水信義線：10658臺北市大安區信義路3段180號'	0	20170525
10	'BR10,BL15'	'(忠孝復興,Zhongxiao Fuxing)'	121.545026	25.041749	'文湖線：10654臺北市大安區忠孝東路3段302號 板南線：10691臺北市大安區忠孝東路4段47號'	0	20170525
11	'BR12'	'(中山國中,Zhongshan Junior High School)'	121.544215	25.06085	'10476臺北市中山區復興北路376號'	0	20170525
12	'BR13'	'(松山機場,Songshan Airport)'	121.55201	25.0629075	'10576臺北市松山區敦化北路338號'	0	20170525
13	'BR14'	'(大直,Dazhi)'	121.54679	25.07943	'10465臺北市中山區北安路534之1號'	0	20170525
14	'BR15'	'(劍南路,Jiannan Rd.)'	121.5555825	25.08483	'10464臺北市中山區北安路798號'	0	20170525
15	'BR16'	'(西湖,Xihu)'	121.567227	25.08216	'11493臺北市內湖區內湖路1段256號'	0	20170525
16	'BR17'	'(港墘,Gangqian)'	121.57516	25.08007	'11446臺北市內湖區內湖路1段663號'	0	20170525
17	'BR18'	'(文德,Wende)'	121.5849995	25.078455	'11475臺北市內湖區文德路214號'	0	20170525
18	'BR19'	'(內湖,Nehu)'	121.594363	25.083675	'11489臺北市內湖區成功路4段186號'	0	20170525
19	'BR20'	'(大湖公園,Dahu Park)'	121.602214	25.083805	'11477臺北市內湖區成功路5段11號'	0	20170525
20	'BR21'	'(葫洲,Huzhou)'	121.6071455	25.07271	'11486臺北市內湖區康寧路3段16號'	0	20170525
21	'BR22'	'(東湖,Donghu)'	121.611535	25.067455	'11486臺北市內湖區康寧路3段235號'	0	20170525
22	'BR23'	'(南港軟體園區,Nangang Software Park)'	121.61615	25.05992	'11568臺北市南港區經貿二路183號'	0	20170525
23	'BR24'	'(南港展覽館,Taipei Nangang Exhibition Center)'	121.616861	25.054919	'文湖線：11568臺北市南港區南港路1段32號'	0	20170525
24	'BL23'	'(南港展覽館,Taipei Nangang Exhibition Center)'	121.616861	25.054919	'板南線：11568臺北市南港區研究院路1段1號'	1	20170525
25	'R02'	'(象山,Xiangshan)'	121.570116	25.032395	'11080臺北市信義區信義路5段152號B1'	1	20170525
26	'R03'	'(台北101/世貿,Taipei 101/World Trade Center)'	121.563667	25.032865	'11049臺北市信義區信義路5段20號B1'	1	20170525
27	'R04'	'(信義安和,Xinyi Anhe)'	121.552326	25.033015	'10681臺北市大安區信義路4段212之1號B1'	1	20170525
28	'R06'	'(大安森林公園,Daan Park)'	121.536151	25.033225	'10656臺北市大安區信義路3段100號B1'	1	20170525
29	'R07'	'(東門,Dongmen)'	121.528766	25.033894	'10650臺北市大安區信義路2段166號B1'	1	20170525
30	'R08,G10'	'(中正紀念堂,Chiang Kai-Shek Memorial Hall)'	121.518273	25.032767	'10074臺北市中正區羅斯福路1段8之1號B1'	1	20170525
31	'R09'	'(台大醫院,NTU Hospital)'	121.51602	25.041399	'10048臺北市中正區公園路52號B1'	1	20170525
32	'R10,R11,R12'	'(台中車站,Taipei Main Station)'	121.517415	25.06631	'10041臺北市中正區中華西路1段540號'	0	20170525

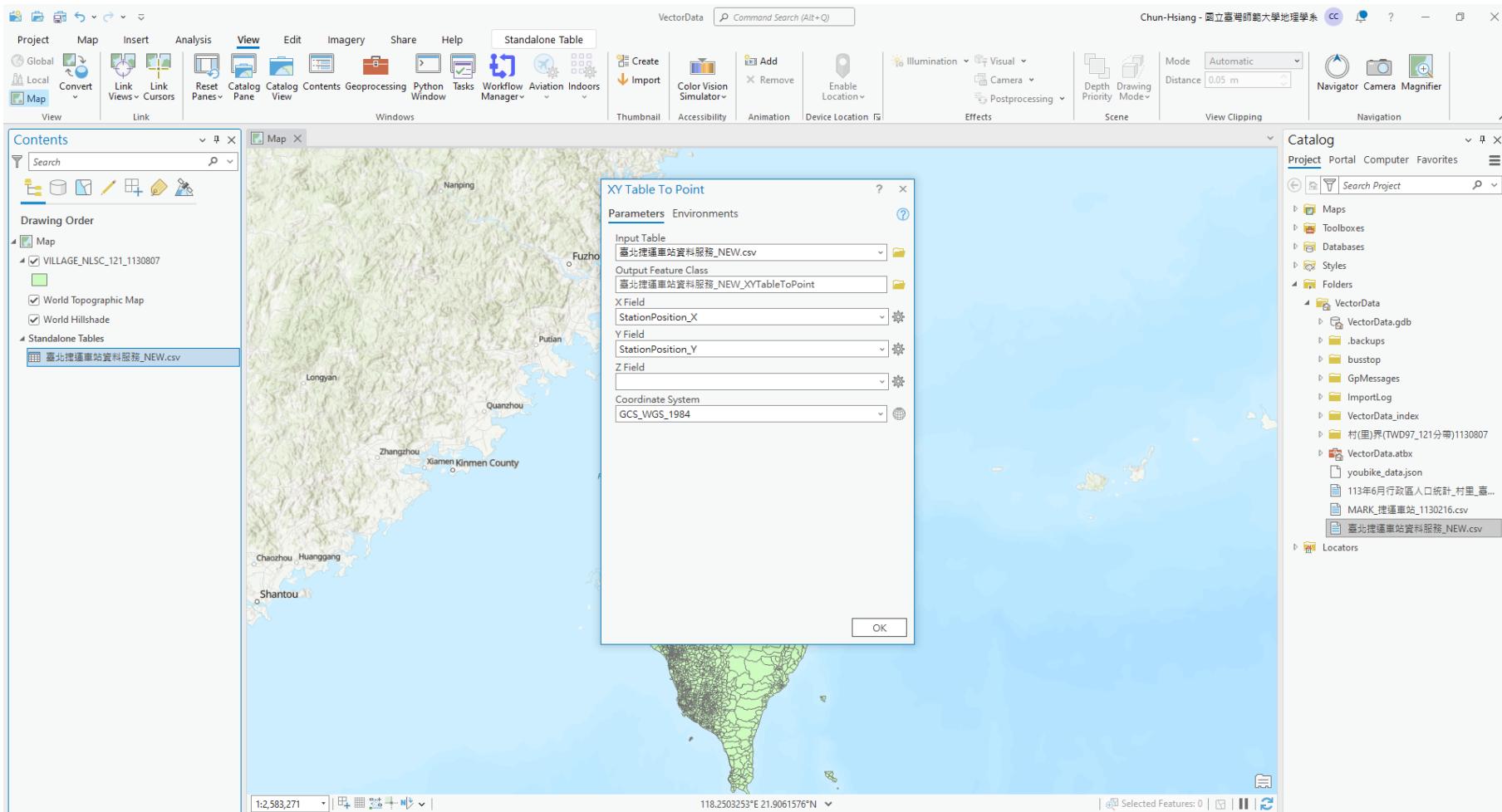
Add CSV to the Contents



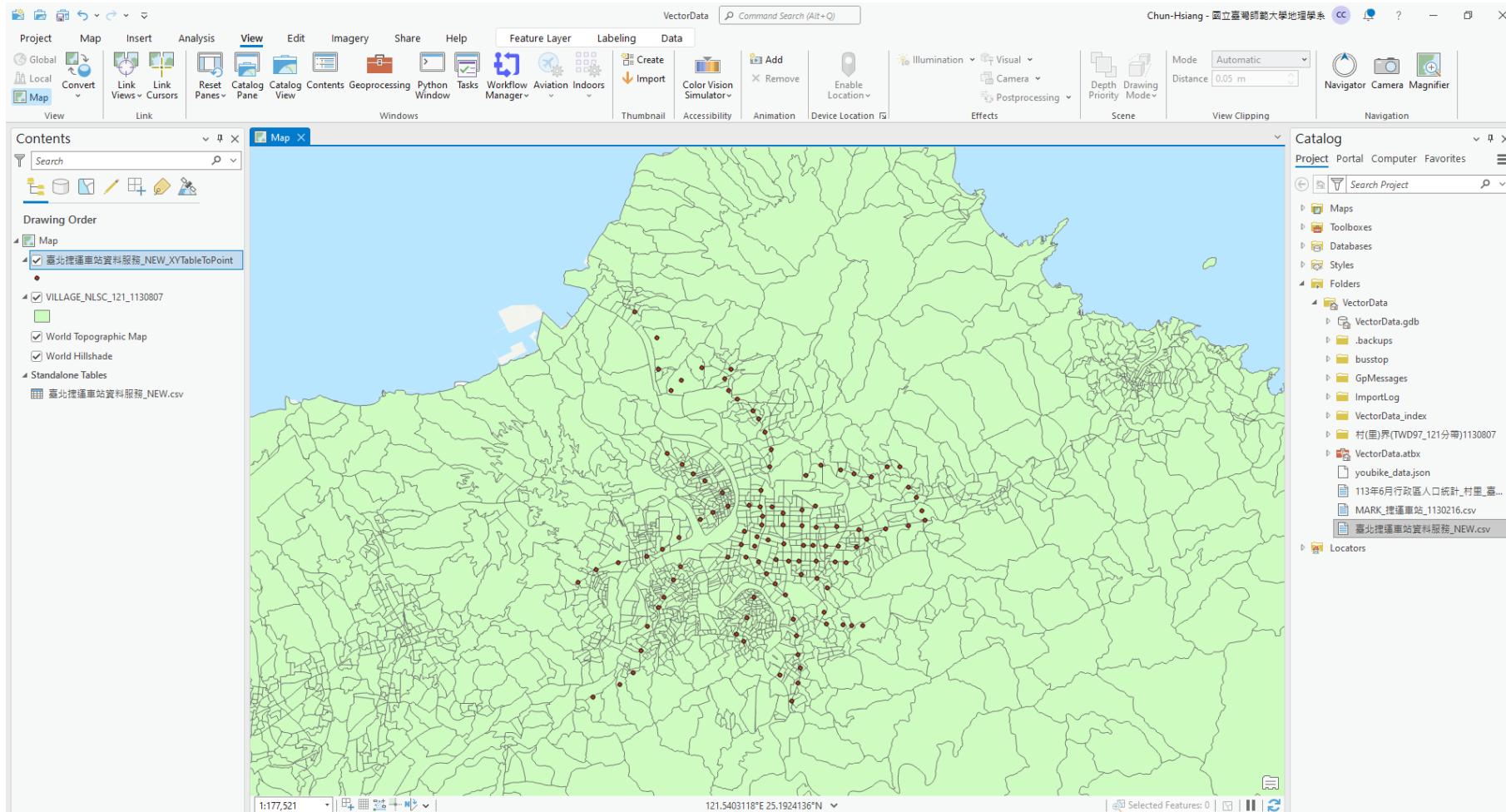
Display XY to Point



Display XY to Point



Display XY to Point Results



Convert JSON to CSV

<https://data.page/json/csv>

The screenshot shows a web browser window with the URL <https://data.page/json/csv> in the address bar. The page title is "Convert JSON to CSV". There are two main input fields: a blue button labeled "Upload JSON file" and a white text box labeled "or Paste your JSON text (or url) here". A small gear icon is located to the right of the text box. Below these fields is a large, semi-transparent background graphic featuring a circuit board and binary code patterns. A tooltip box is overlaid on the background, containing instructions: "Convert JSON to CSV using this free online tool", followed by a numbered list: 1. Upload your JSON file by clicking the blue button (or paste your JSON text / URL into the textbox), 2. (Press the cog button on the right for advanced settings), 3. Download the resulting CSV file when prompted, 4. Open your CSV file in Excel (or Open Office). At the bottom of the page, there are sections for "Contact us", "Where now?", and links to various services like CSV Shortcuts, Email alerts, and JSON Formatter.

Convert JSON to CSV

Upload JSON file

or Paste your JSON text (or url) here

Convert JSON to CSV using this free online tool

1. Upload your JSON file by clicking the blue button (or paste your JSON text / URL into the textbox)
2. (Press the cog button on the right for advanced settings)
3. Download the resulting CSV file when prompted
4. Open your CSV file in Excel (or Open Office)

Contact us

Tell us about your data-related problem. We will solve it rapidly.

DATA PAGE sign in

Tweet

CSV Shortcuts - transform any JSON URL into a direct CSV download link (and email to others)

Email alerts - receive daily emails (with CSV attached) whenever a JSON feed changes

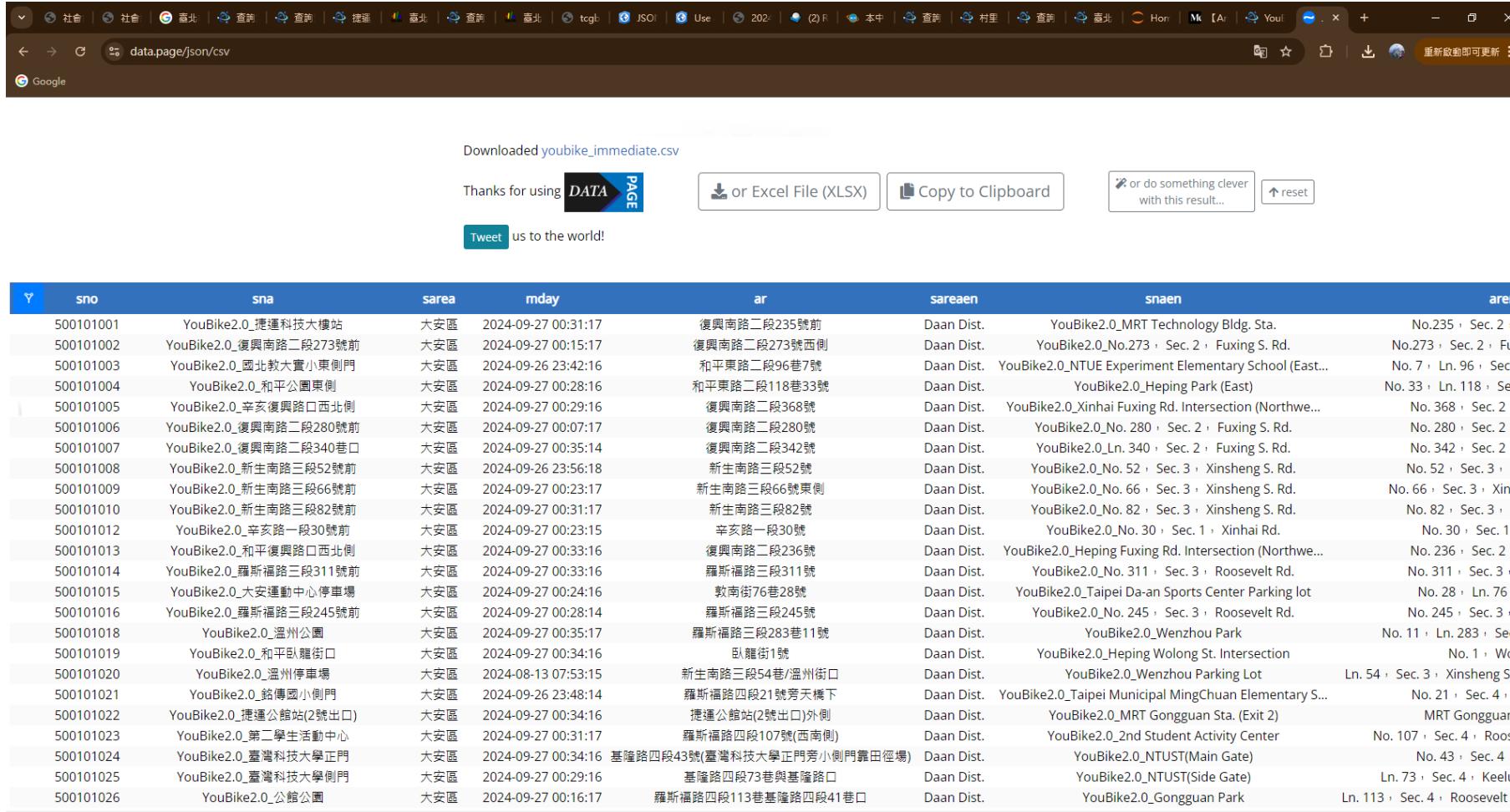
Where now?

JSON to CSV
CSV to JSON
XML to CSV
Desktop App
JSON Formatter

Upgrade to PRO
Log in
API
JSON Editor

What is JSON?
What is CSV?
Blog
About Us

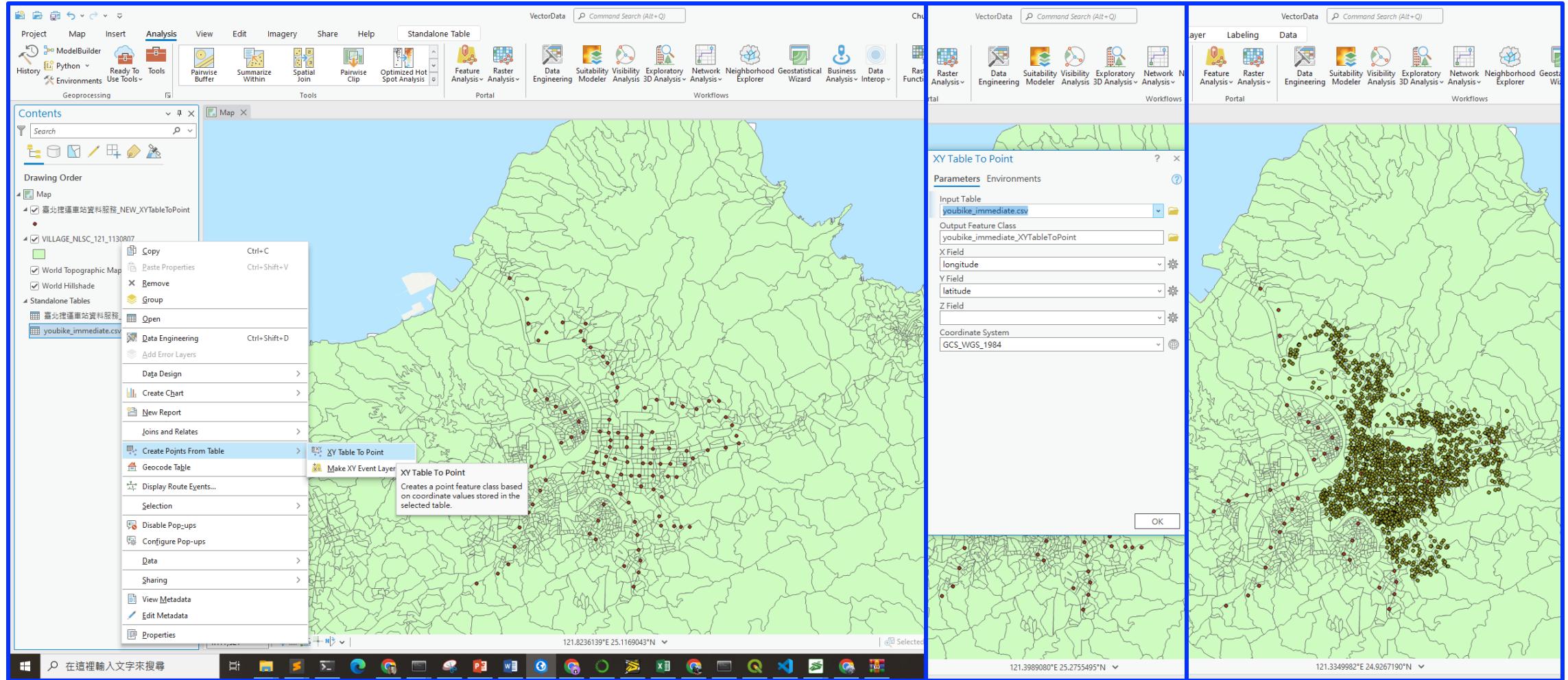
Convert JSON to CSV



The screenshot shows a web browser window with the URL data.page/json/csv. The page displays a CSV file titled "youbike_immediate.csv" that has been downloaded. The CSV contains data about YouBike stations in Taipei, with columns including sno, sna, sare, rday, ar, sareen, snaen, and aren. The browser interface includes a "DATA PAGE" logo, download and clipboard buttons, and a "Tweet" button.

sno	sna	sarea	rday	ar	sareen	snaen	aren
500101001	YouBike2.0_捷運科技大樓站	大安區	2024-09-27 00:31:17	復興南路二段235號前	Daan Dist.	YouBike2.0_MRT Technology Bldg. Sta.	No.235, Sec. 2,
500101002	YouBike2.0_復興南路二段273號前	大安區	2024-09-27 00:15:17	復興南路二段273號西側	Daan Dist.	YouBike2.0_No.273, Sec. 2, Fuxing S. Rd.	No.273, Sec. 2, Fu
500101003	YouBike2.0_國北教大實小東側門	大安區	2024-09-26 23:42:16	和平東路二段96巷7號	Daan Dist.	YouBike2.0_NTUE Experiment Elementary School (East...)	No. 7, Ln. 96, Sec.
500101004	YouBike2.0_和平公園東側	大安區	2024-09-27 00:28:16	和平東路二段118巷33號	Daan Dist.	YouBike2.0_Heping Park (East)	No. 33, Ln. 118, Se
500101005	YouBike2.0_辛亥復興路口西北側	大安區	2024-09-27 00:29:16	復興南路二段368號	Daan Dist.	YouBike2.0_Xinhai Fuxing Rd. Intersection (Northwe...	No.368, Sec. 2,
500101006	YouBike2.0_復興南路二段280號前	大安區	2024-09-27 00:07:17	復興南路二段280號	Daan Dist.	YouBike2.0_No. 280, Sec. 2, Fuxing S. Rd.	No. 280, Sec. 2,
500101007	YouBike2.0_復興南路二段340巷口	大安區	2024-09-27 00:35:14	復興南路二段342號	Daan Dist.	YouBike2.0_Ln. 340, Sec. 2, Fuxing S. Rd.	No. 342, Sec. 2,
500101008	YouBike2.0_新生南路三段52號前	大安區	2024-09-26 23:56:18	新生南路三段52號	Daan Dist.	YouBike2.0_No. 52, Sec. 3, Xinsheng S. Rd.	No. 52, Sec. 3, >
500101009	YouBike2.0_新生南路三段66號前	大安區	2024-09-27 00:23:17	新生南路三段66號東側	Daan Dist.	YouBike2.0_No. 66, Sec. 3, Xinsheng S. Rd.	No. 66, Sec. 3, Xin
500101010	YouBike2.0_新生南路三段82號前	大安區	2024-09-27 00:31:17	新生南路三段82號	Daan Dist.	YouBike2.0_No. 82, Sec. 3, Xinsheng S. Rd.	No. 82, Sec. 3, >
500101012	YouBike2.0_辛亥路一段30號前	大安區	2024-09-27 00:23:15	辛亥路一段30號	Daan Dist.	YouBike2.0_No. 30, Sec. 1, Xinhai Rd.	No. 30, Sec. 1
500101013	YouBike2.0_和平復興路口西北側	大安區	2024-09-27 00:33:16	復興南路二段236號	Daan Dist.	YouBike2.0_Heping Fuxing Rd. Intersection (Northwe...	No. 236, Sec. 2,
500101014	YouBike2.0_羅斯福路三段311號前	大安區	2024-09-27 00:33:16	羅斯福路三段311號	Daan Dist.	YouBike2.0_No. 311, Sec. 3, Roosevelt Rd.	No. 311, Sec. 3,
500101015	YouBike2.0_大安運動中心停車場	大安區	2024-09-27 00:24:16	敦南街76巷28號	Daan Dist.	YouBike2.0_Taipei Da-an Sports Center Parking lot	No. 28, Ln. 76
500101016	YouBike2.0_羅斯福路三段245號前	大安區	2024-09-27 00:28:14	羅斯福路三段245號	Daan Dist.	YouBike2.0_No. 245, Sec. 3, Roosevelt Rd.	No. 245, Sec. 3,
500101018	YouBike2.0_溫州公園	大安區	2024-09-27 00:35:17	羅斯福路三段283巷11號	Daan Dist.	YouBike2.0_Wenzhou Park	No. 11, Ln. 283, Sec
500101019	YouBike2.0_和平臥龍街口	大安區	2024-09-27 00:34:16	臥龍街1號	Daan Dist.	YouBike2.0_Heping Wolong St. Intersection	No. 1, Wo
500101020	YouBike2.0_溫州停車場	大安區	2024-08-13 07:53:15	新生南路三段54巷/溫州街口	Daan Dist.	YouBike2.0_Wenzhou Parking Lot	Ln. 54, Sec. 3, Xinsheng S.
500101021	YouBike2.0_銘傳國小側門	大安區	2024-09-26 23:48:14	羅斯福路四段21號旁天橋下	Daan Dist.	YouBike2.0_Taipei Municipal MingChuan Elementary S...	No. 21, Sec. 4,
500101022	YouBike2.0_捷運公館站(2號出口)	大安區	2024-09-27 00:34:16	捷運公館站(2號出口)外側	Daan Dist.	YouBike2.0_MRT Gongguan Sta. (Exit 2)	MRT Gongguan
500101023	YouBike2.0_第二學生活動中心	大安區	2024-09-27 00:31:17	羅斯福路四段107號(西南側)	Daan Dist.	YouBike2.0_2nd Student Activity Center	No. 107, Sec. 4, Roos
500101024	YouBike2.0_臺灣科技大學正門	大安區	2024-09-27 00:34:16	基隆路四段43號(臺灣科技大學正門旁小側門靠田徑場)	Daan Dist.	YouBike2.0_NTUST(Main Gate)	No. 43, Sec. 4,
500101025	YouBike2.0_臺灣科技大學側門	大安區	2024-09-27 00:29:16	基隆路四段73巷與基隆路口	Daan Dist.	YouBike2.0_NTUST(Side Gate)	Ln. 73, Sec. 4, Keel
500101026	YouBike2.0_公館公園	大安區	2024-09-27 00:16:17	羅斯福路四段113巷基隆路四段41巷口	Daan Dist.	YouBike2.0_Gongguan Park	Ln. 113, Sec. 4, Roosevelt I,

Conduct “XY Table to Point”



Join & Spatial Join

Merge data from one shapefile to another

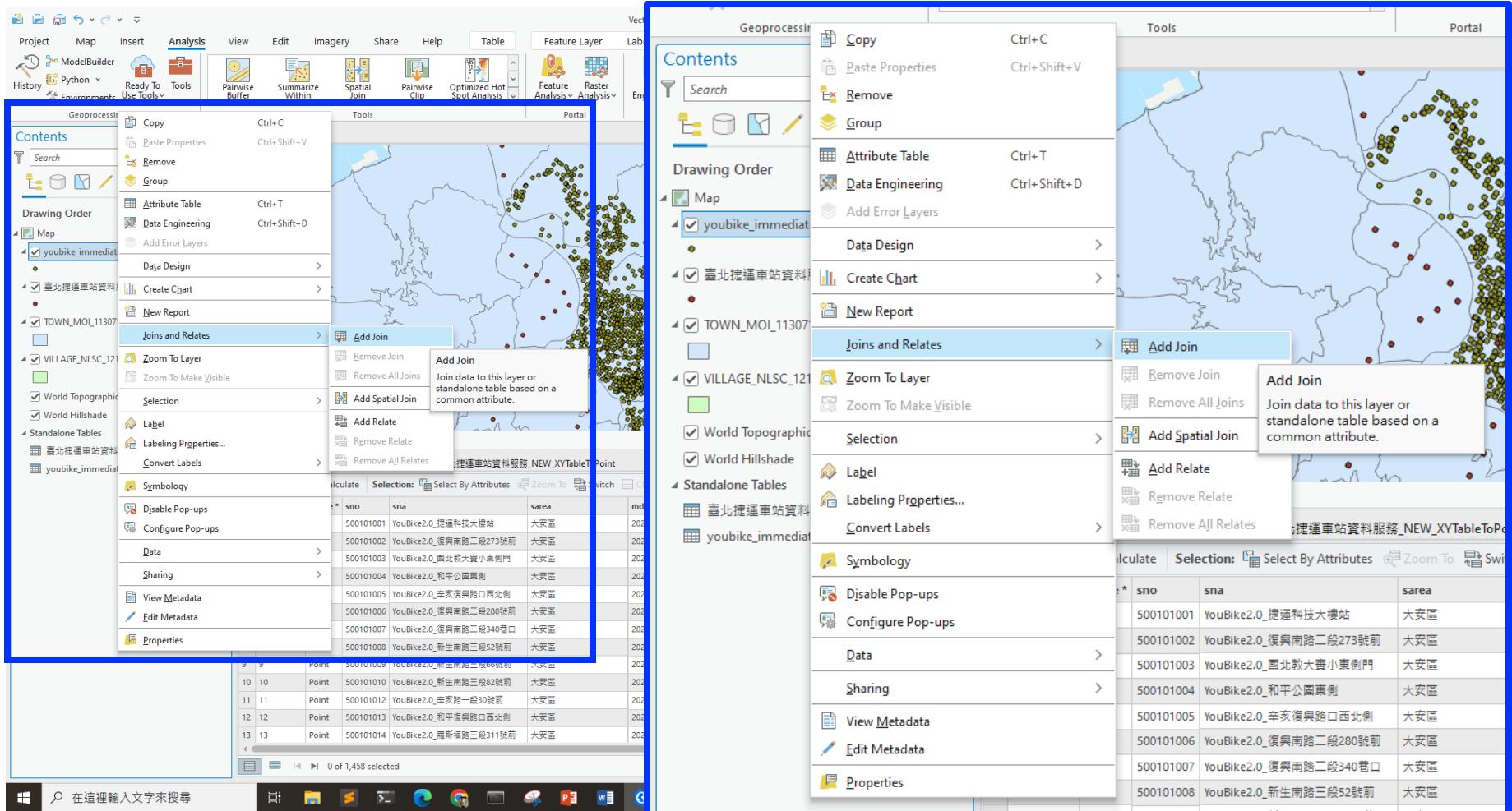
Open Attribute Table

The screenshot shows the ArcGIS Pro interface with the following details:

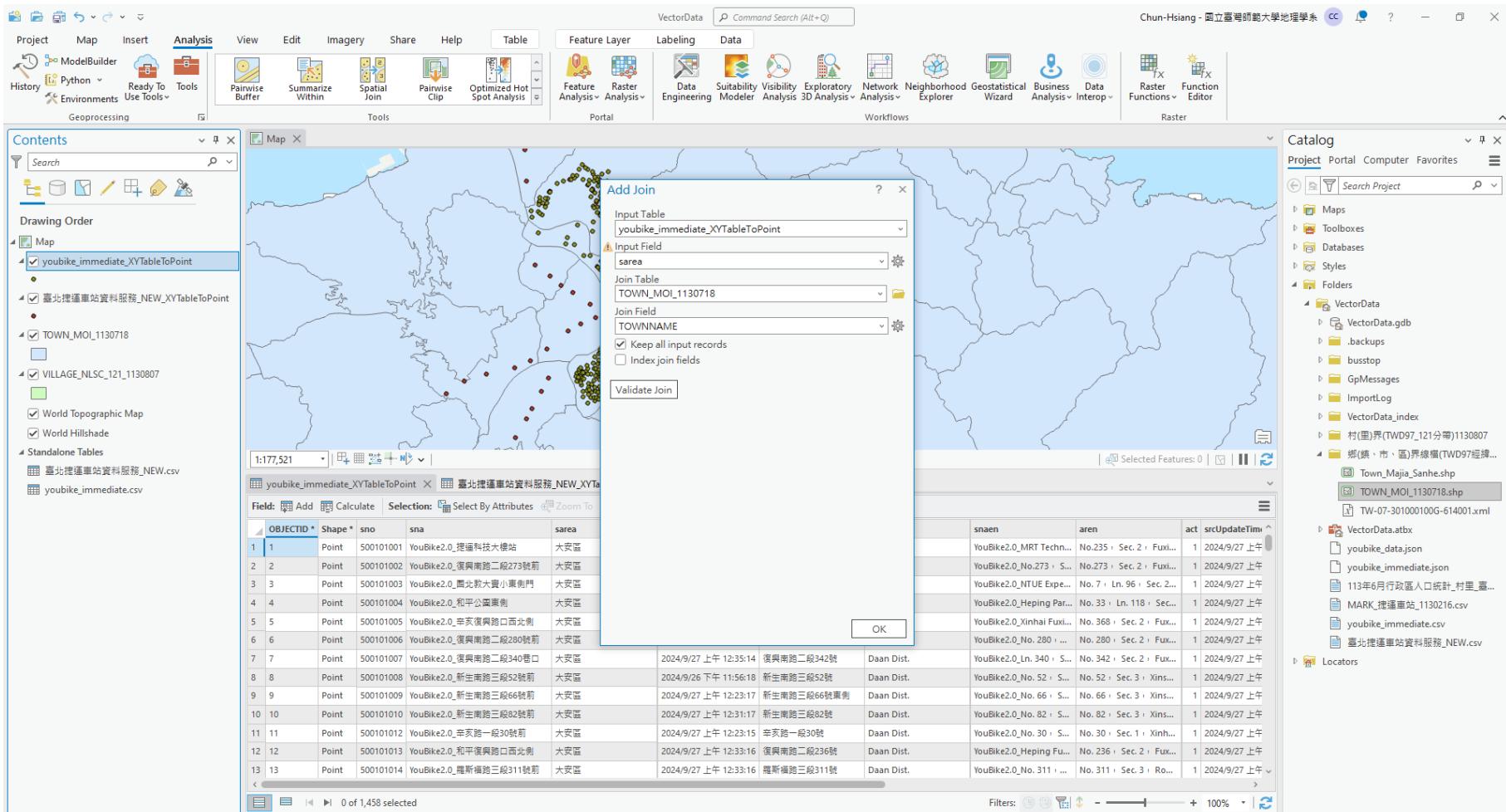
- Project Bar:** Project, Map, Insert, Analysis, View, Edit, Imagery, Share, Help, Table.
- Analysis Tab:** ModelBuilder, Python, Environments, Ready To Use Tools, Geoprocessing, Tools, Pairwise Buffer, Summarize Within, Spatial Join, Pairwise Clip, Optimized Hot Spot Analysis.
- Table Tab:** Feature Layer, Labeling, Data, Feature Analysis, Raster Engineering, Data Suitability, Visibility, Exploratory Analysis, Network, Neighborhood, Geostatistical Wizard, Business Analysis, Data Interop, Raster Functions, Function Editor.
- Map View:** Displays a map of Taipei with numerous green and red point features representing bike stations.
- Contents Panel:** Shows the drawing order with "youbike_immediate_XYTableToPoint" and "臺北捷運車站資料服務_NEW_XYTableToPoint" selected.
- Catalog Panel:** Shows the project structure including VectorData, Folders, and various files like VectorData.gdb, .backups, busstop, GpMessages, ImportLog, VectorData_index, and Town_Majia_Sanhe.shp.
- Attribute Table:** An open attribute table titled "youbike_immediate_XYTableToPoint" with 1,458 selected rows. The table includes columns such as OBJECTID, Shape, sno, sna, sarea, mday, ar, sareen, snaen, aren, act, and srcUpdateTime.

OBJECTID	Shape *	sno	sna	sarea	mday	ar	sareen	snaen	aren	act	srcUpdateTime
1	Point	500101001	YouBike2.0_捷運科技大樓站	大安區	2024/9/27 上午 12:31:17	復興南路二段235號前	Daan Dist.	YouBike2.0_MRT Techn...	No.235 Sec. 2 Fuxi...	1	2024/9/27 上午
2	Point	500101002	YouBike2.0_復興南路二段273號前	大安區	2024/9/27 上午 12:15:17	復興南路二段273號西側	Daan Dist.	YouBike2.0_No.273 S...	No.273 Sec. 2 Fuxi...	1	2024/9/27 上午
3	Point	500101003	YouBike2.0_南北對大賣小東側門	大安區	2024/9/26 下午 11:42:16	和平東路二段96巷7號	Daan Dist.	YouBike2.0_Heping Par...	No. 7 Ln. 96 Sec. 2...	1	2024/9/27 上午
4	Point	500101004	YouBike2.0_和平公園東側	大安區	2024/9/27 上午 12:28:16	和平東路二段118巷33號	Daan Dist.	YouBike2.0_Heping Par...	No. 33 Ln. 118 Sec. 2...	1	2024/9/27 上午
5	Point	500101005	YouBike2.0_辛亥街與路口西北側	大安區	2024/9/27 上午 12:29:17	復興南路二段368號	Daan Dist.	YouBike2.0_Xinhai Fuxi...	No. 368 Sec. 2 Fuxi...	1	2024/9/27 上午
6	Point	500101006	YouBike2.0_復興南路二段280號前	大安區	2024/9/27 上午 12:07:17	復興南路二段280號	Daan Dist.	YouBike2.0_No. 280 ...	No. 280 Sec. 2 Fuxi...	1	2024/9/27 上午
7	Point	500101007	YouBike2.0_復興南路二段340巷口	大安區	2024/9/27 上午 12:35:14	復興南路二段342號	Daan Dist.	YouBike2.0_Ln. 340 ...	No. 342 Sec. 2 Fuxi...	1	2024/9/27 上午
8	Point	500101008	YouBike2.0_新生南路三段52號前	大安區	2024/9/26 下午 11:56:18	新生南路三段52號	Daan Dist.	YouBike2.0_No. 52 S...	No. 52 Sec. 3 Xins...	1	2024/9/27 上午
9	Point	500101009	YouBike2.0_新生南路三段66號前	大安區	2024/9/27 上午 12:23:17	新生南路三段66號東側	Daan Dist.	YouBike2.0_No. 66 S...	No. 66 Sec. 3 Xins...	1	2024/9/27 上午
10	Point	500101010	YouBike2.0_新生南路三段82號前	大安區	2024/9/27 上午 12:31:17	新生南路三段82號	Daan Dist.	YouBike2.0_No. 82 S...	No. 82 Sec. 3 Xins...	1	2024/9/27 上午
11	Point	500101012	YouBike2.0_辛亥路一段30號前	大安區	2024/9/27 上午 12:23:15	辛亥路一段30號	Daan Dist.	YouBike2.0_No. 30 S...	No. 30 Sec. 1 Xinh...	1	2024/9/27 上午
12	Point	500101013	YouBike2.0_和平復興路口西北側	大安區	2024/9/27 上午 12:33:16	復興南路二段236號	Daan Dist.	YouBike2.0_Heping Fu...	No. 236 Sec. 2 Fuxi...	1	2024/9/27 上午
13	Point	500101014	YouBike2.0_羅斯福路三段311號前	大安區	2024/9/27 上午 12:33:16	羅斯福路三段311號	Daan Dist.	YouBike2.0_No. 311 ...	No. 311 Sec. 1 Ro...	1	2024/9/27 上午

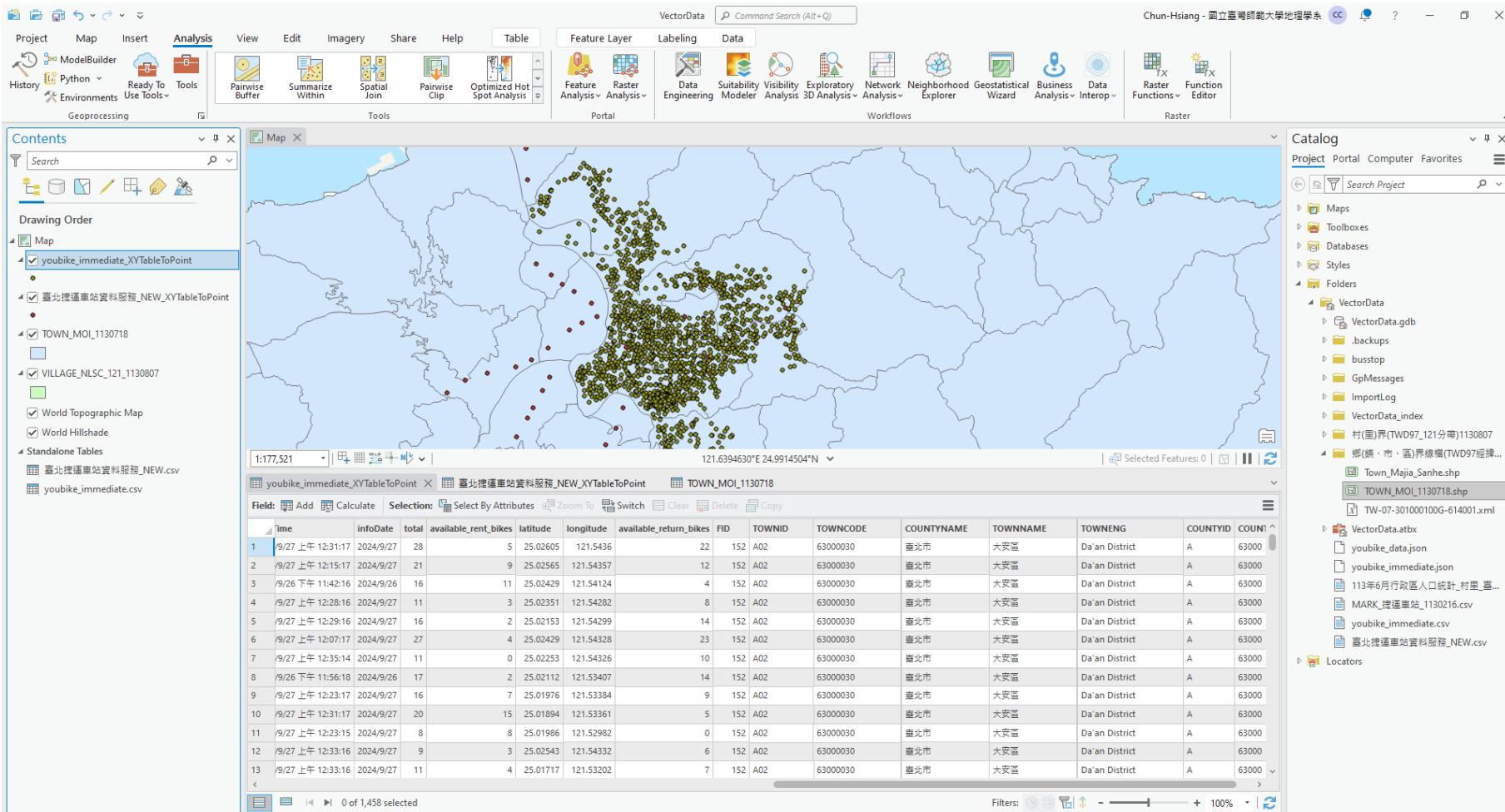
Add Join to Merge MOI Data into YouBike



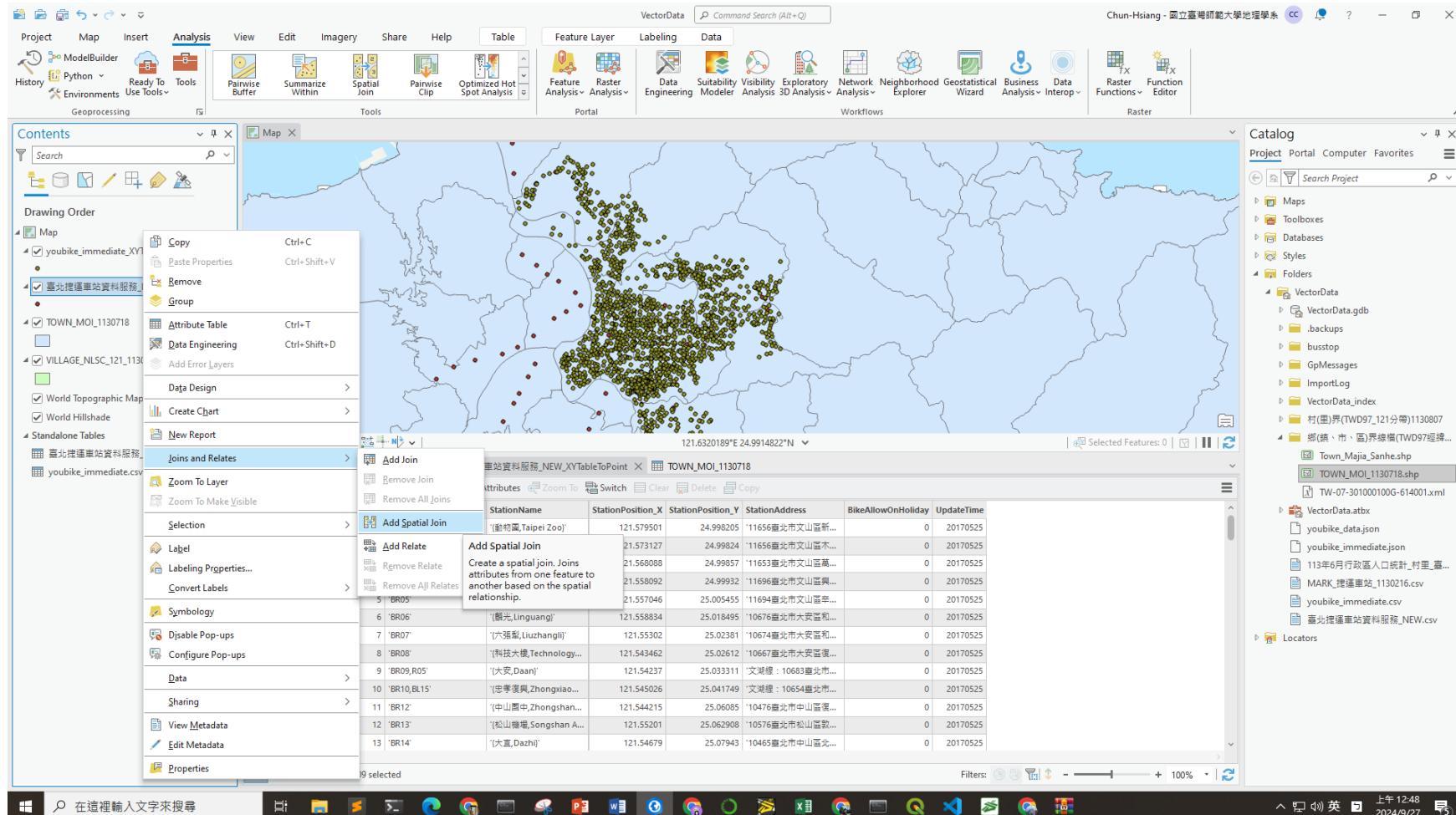
Add Join to Merge MOI Data into YouBike



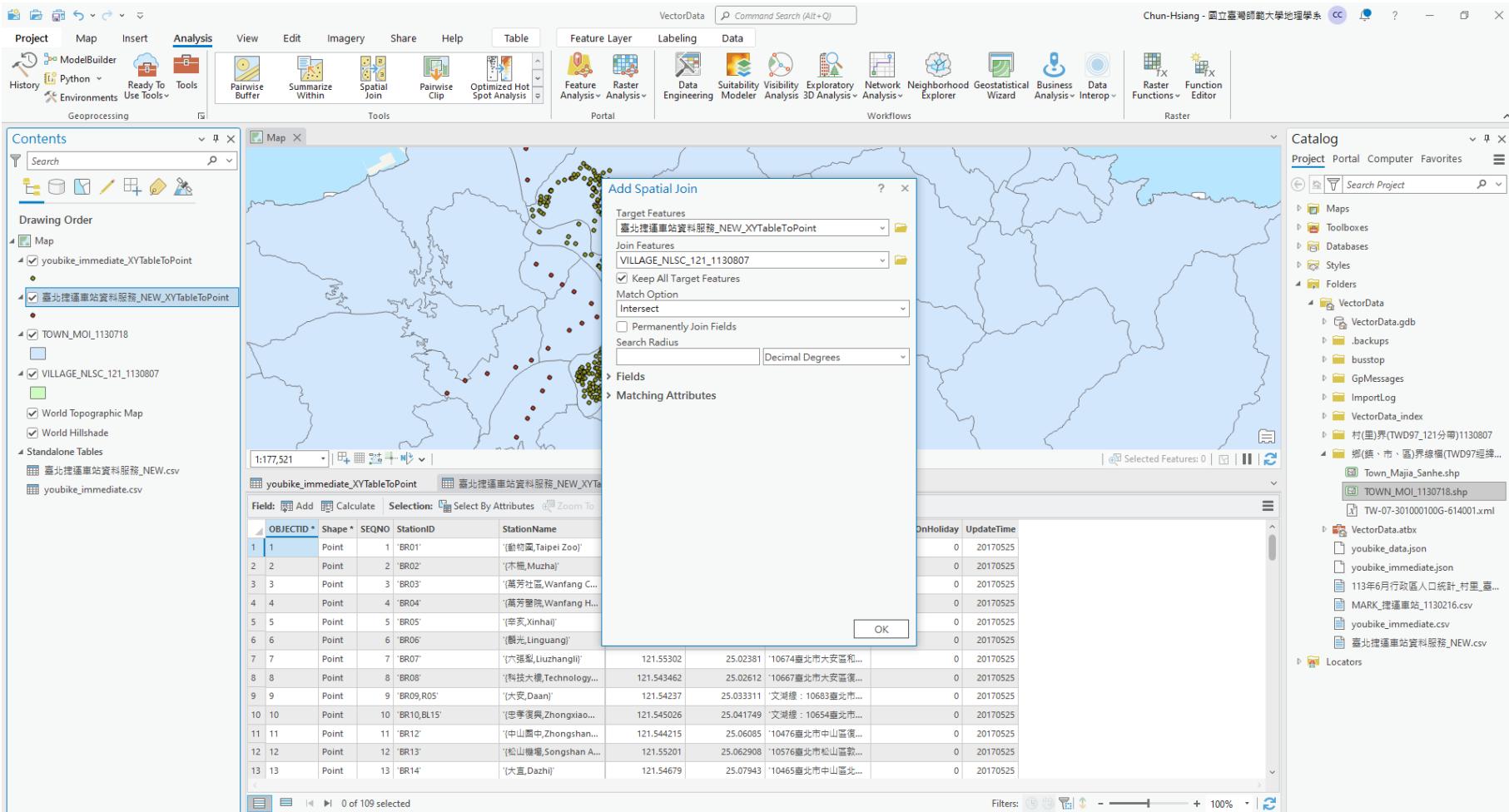
Results of “Add Join”



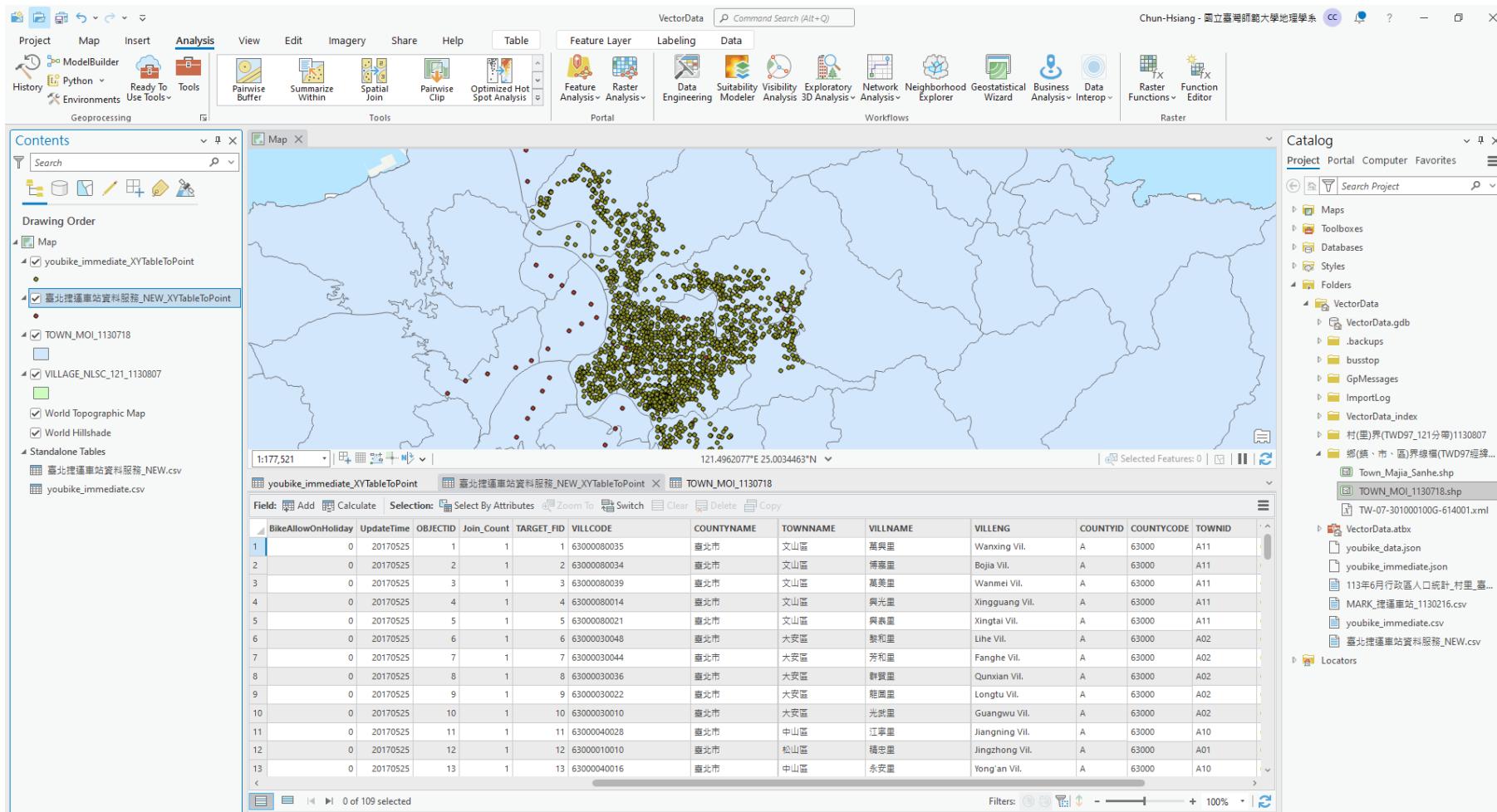
Add Spatial Join to Merge Village Data



Add Spatial Join to Merge Village Data



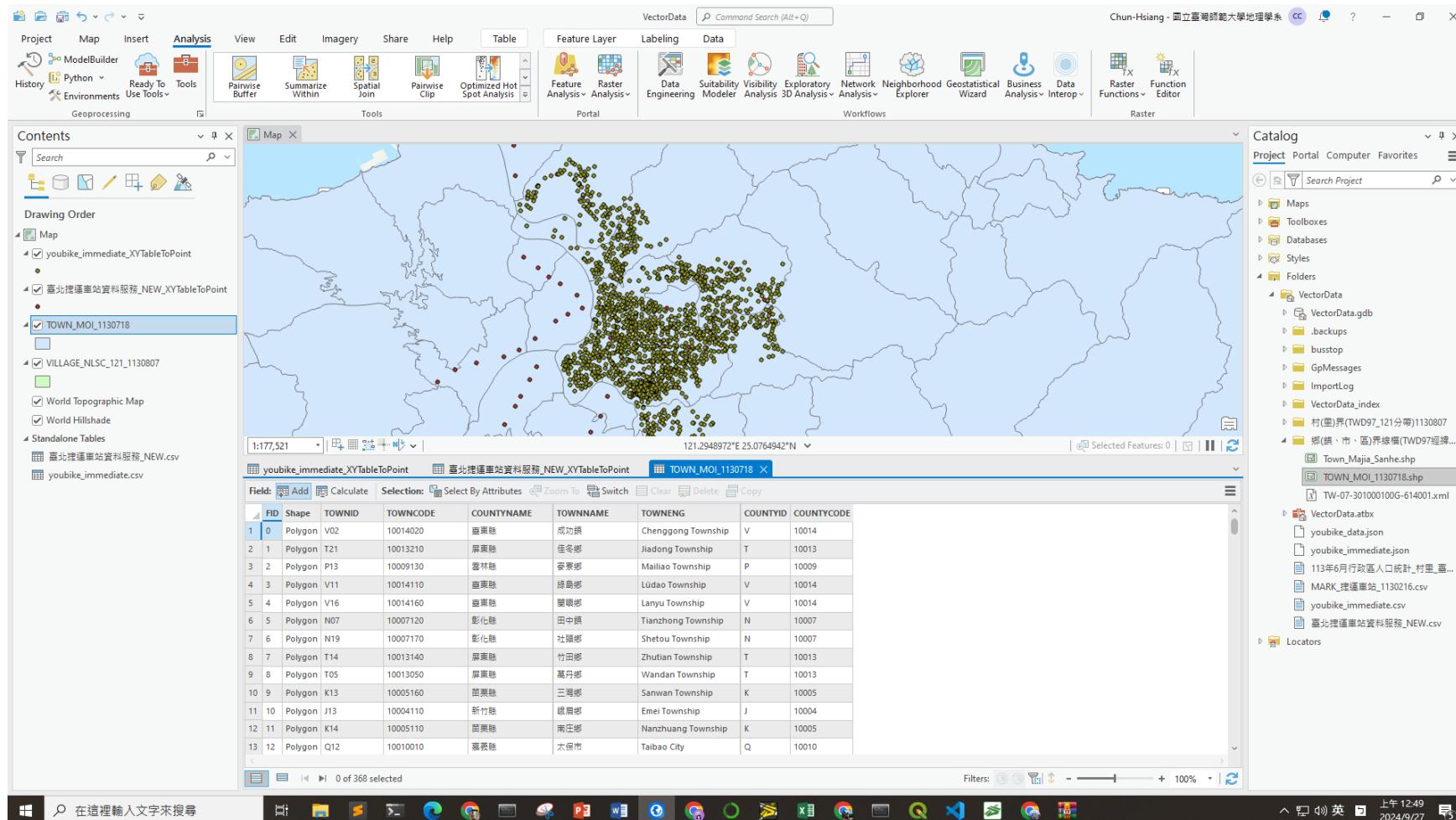
Results of "Add Spatial Join"



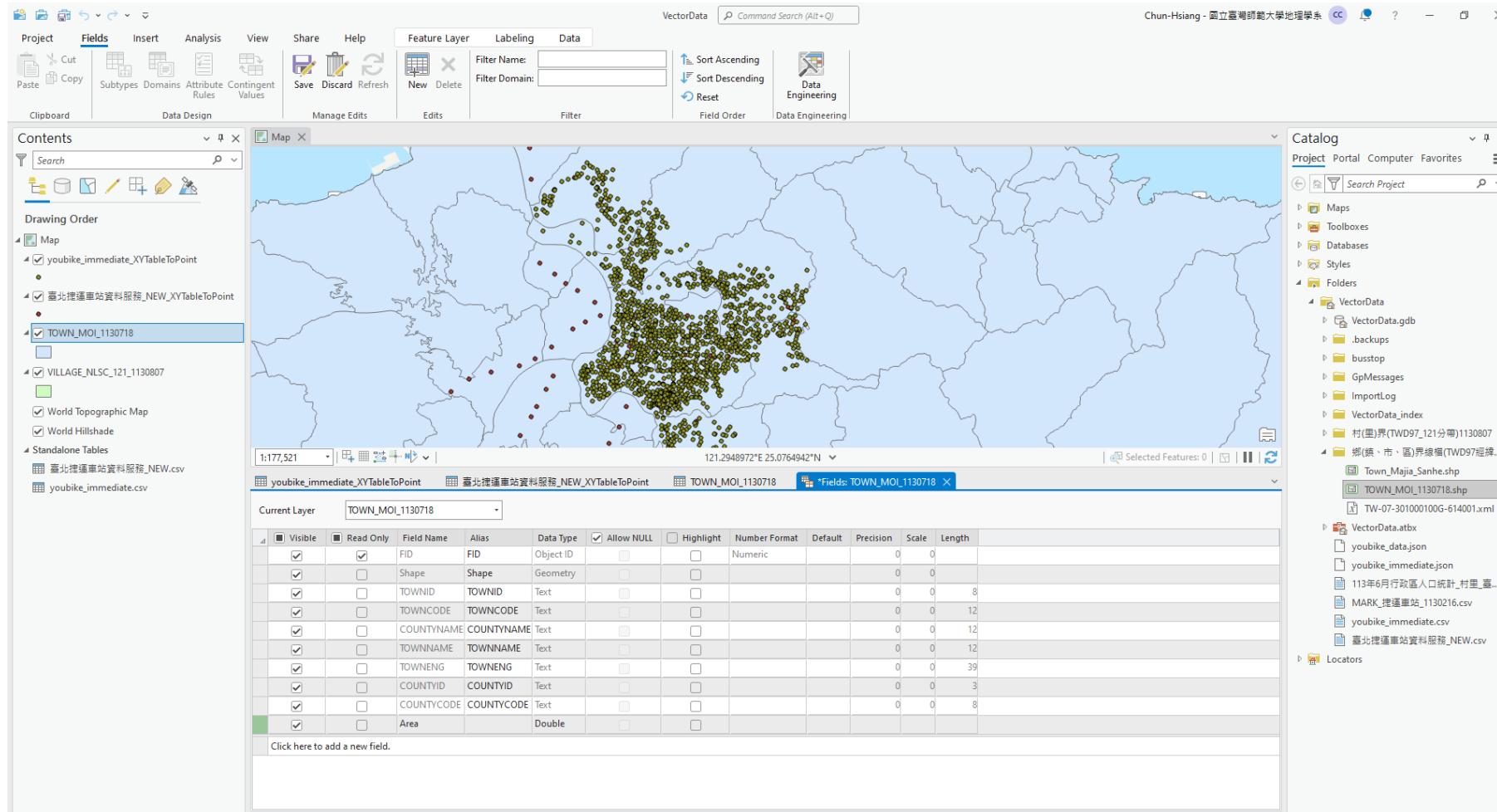
Calculate Geometry

Calculate Geometry and Add Field

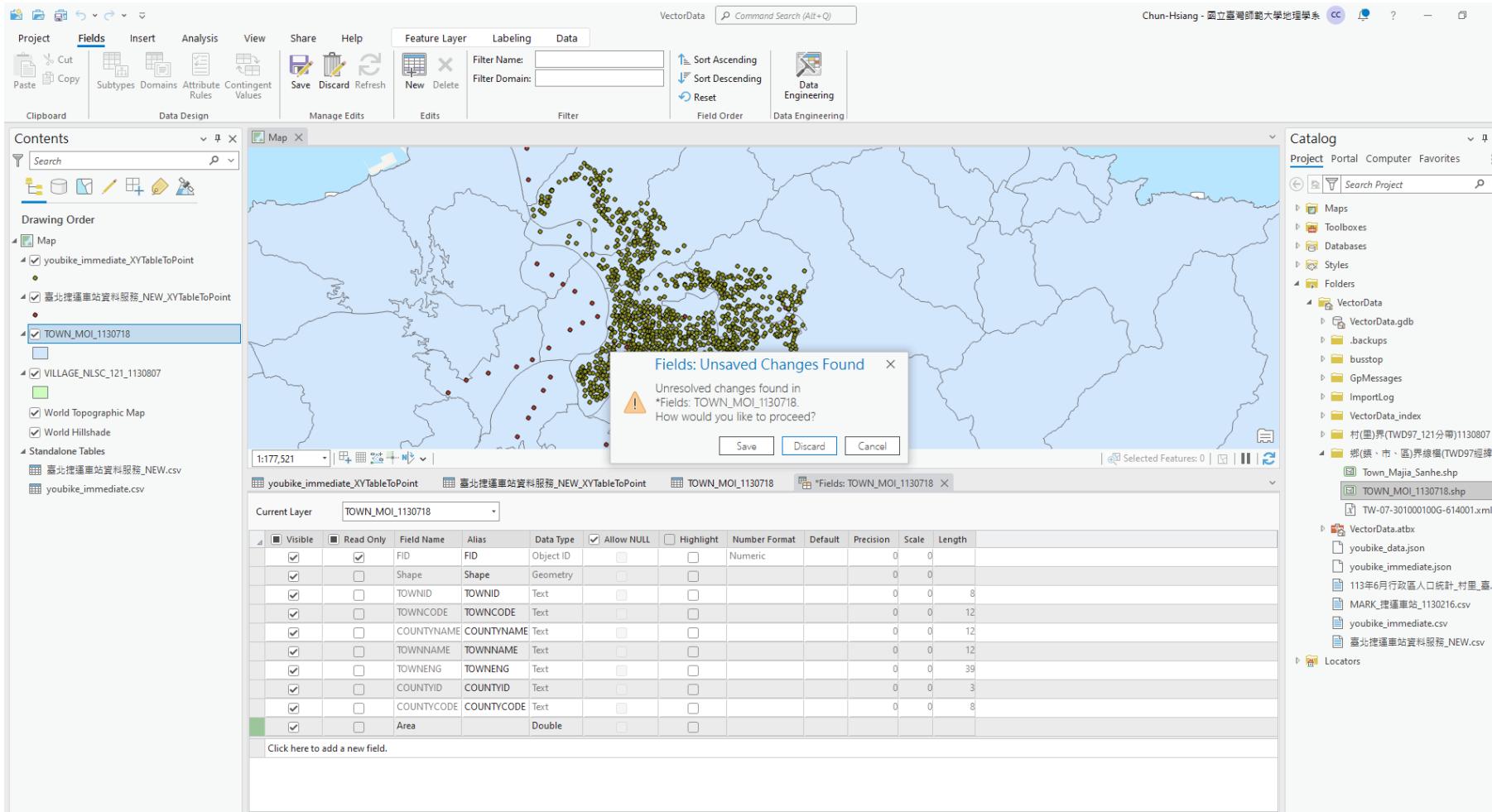
Add Field for Creating a New Column



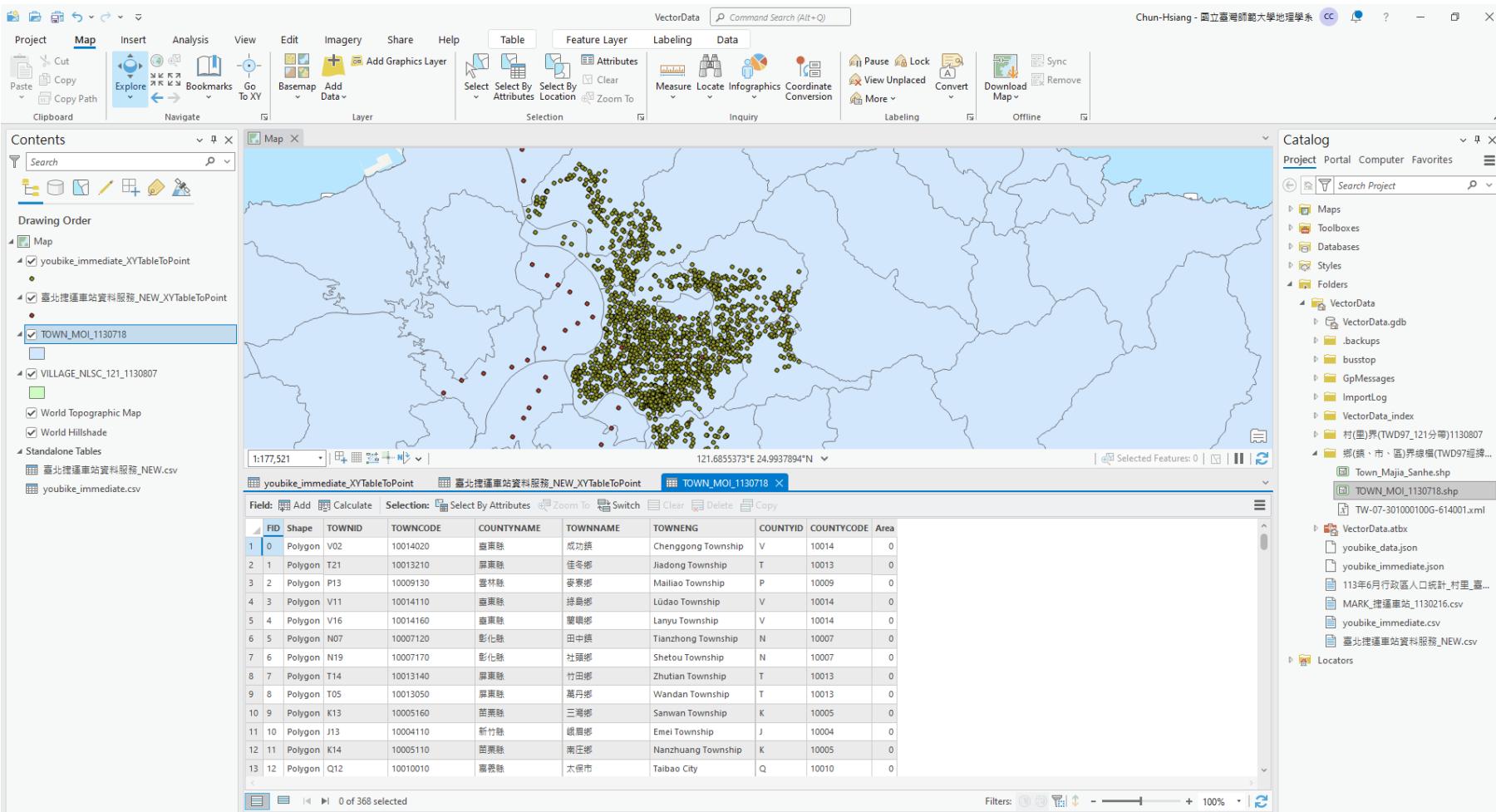
Add Field and Name “Area” with Double



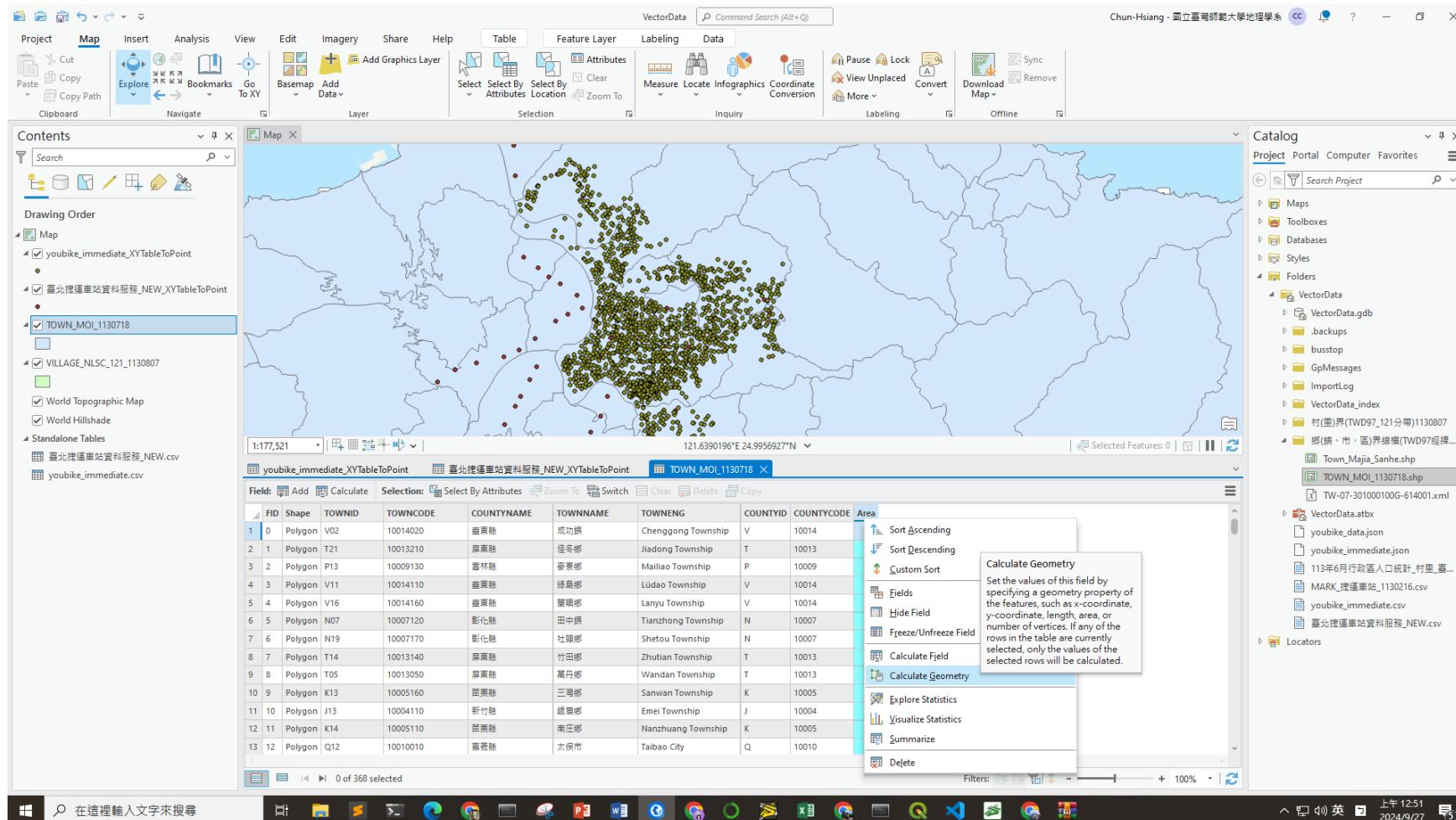
Save Changes



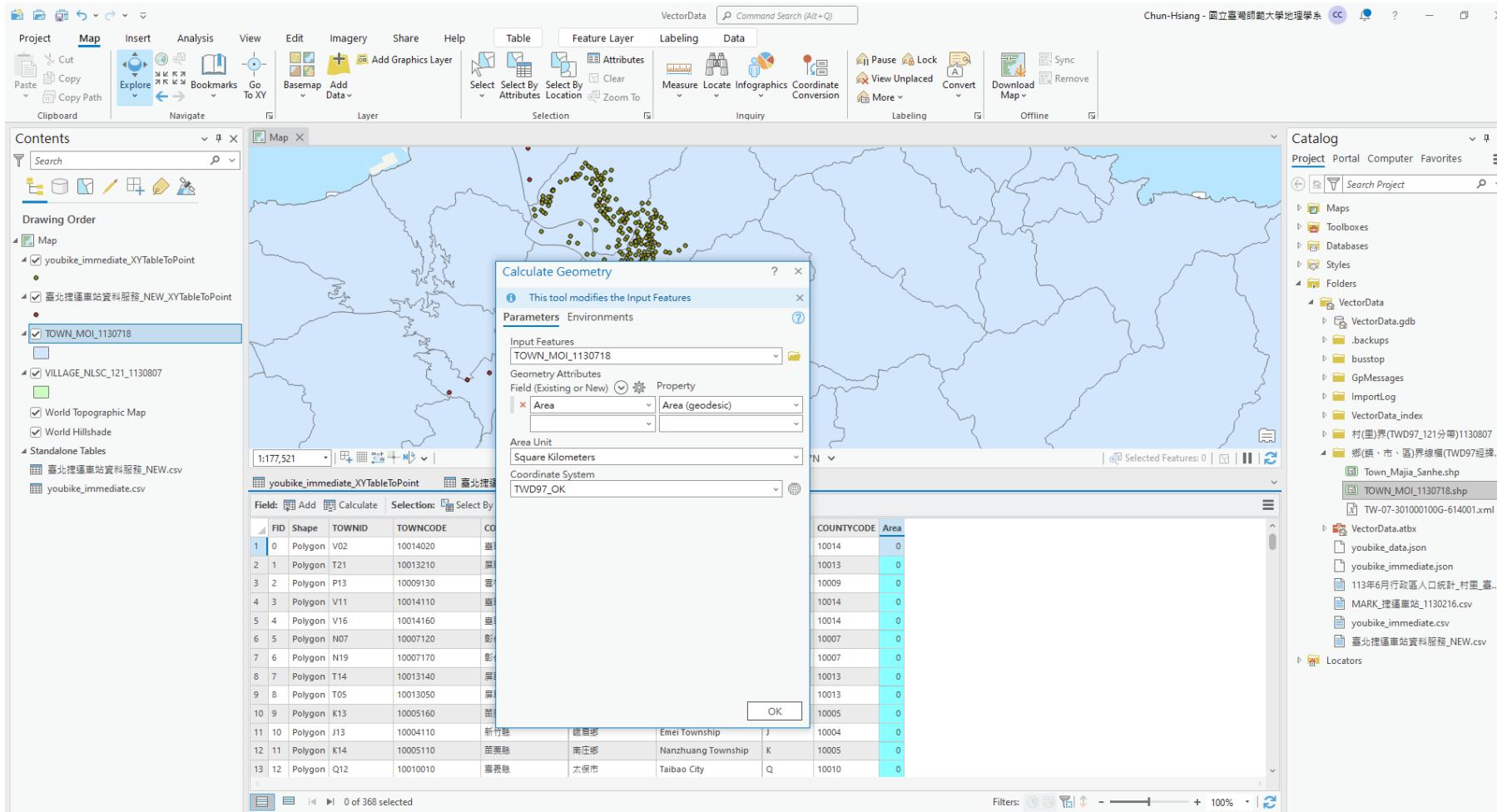
Results of "Add Field"



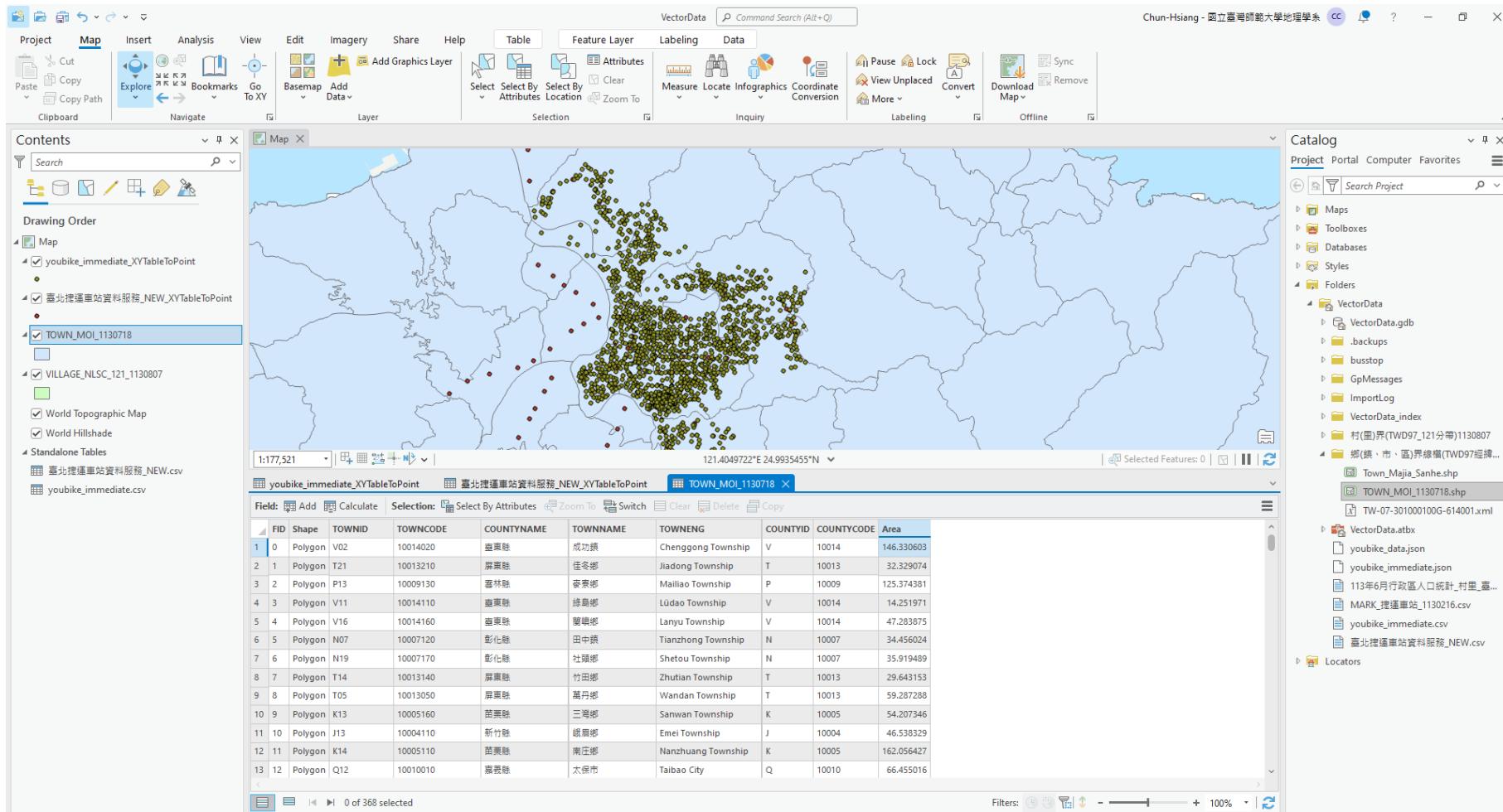
Calculate Geometry



Calculate “Area” of Each Polygon



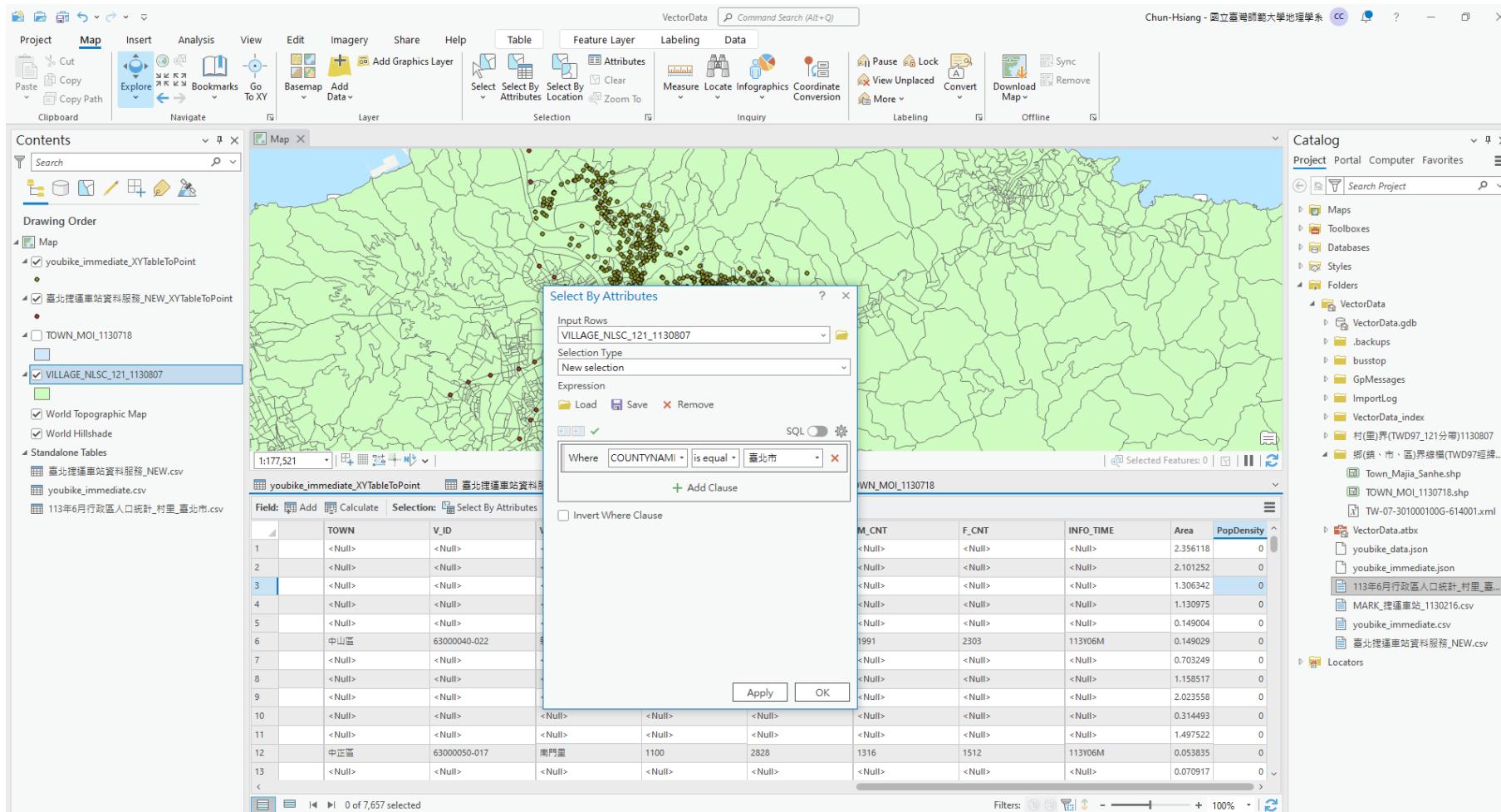
Results of “Area” Calculation



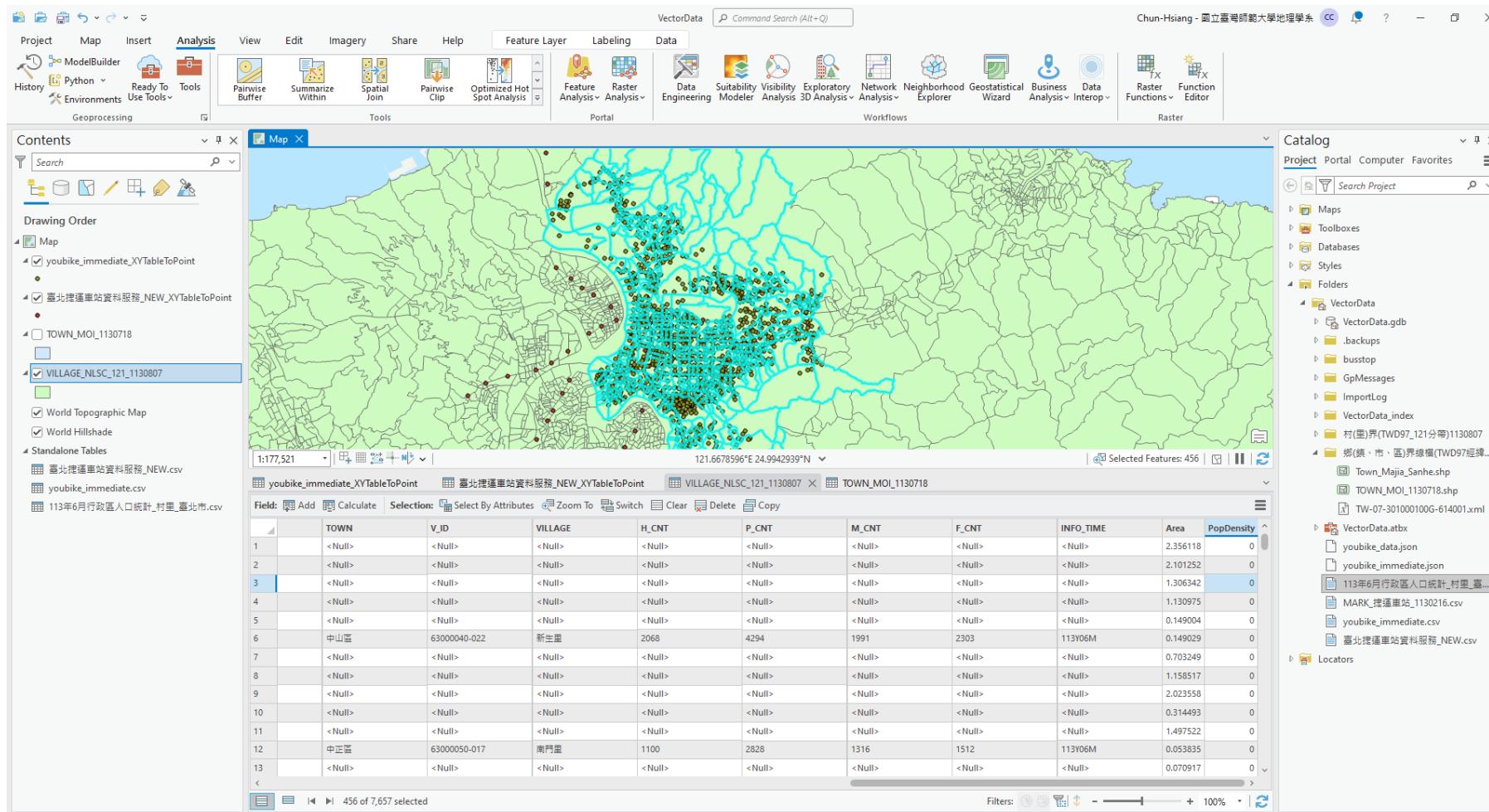
Export Data

Selected Data Exportation

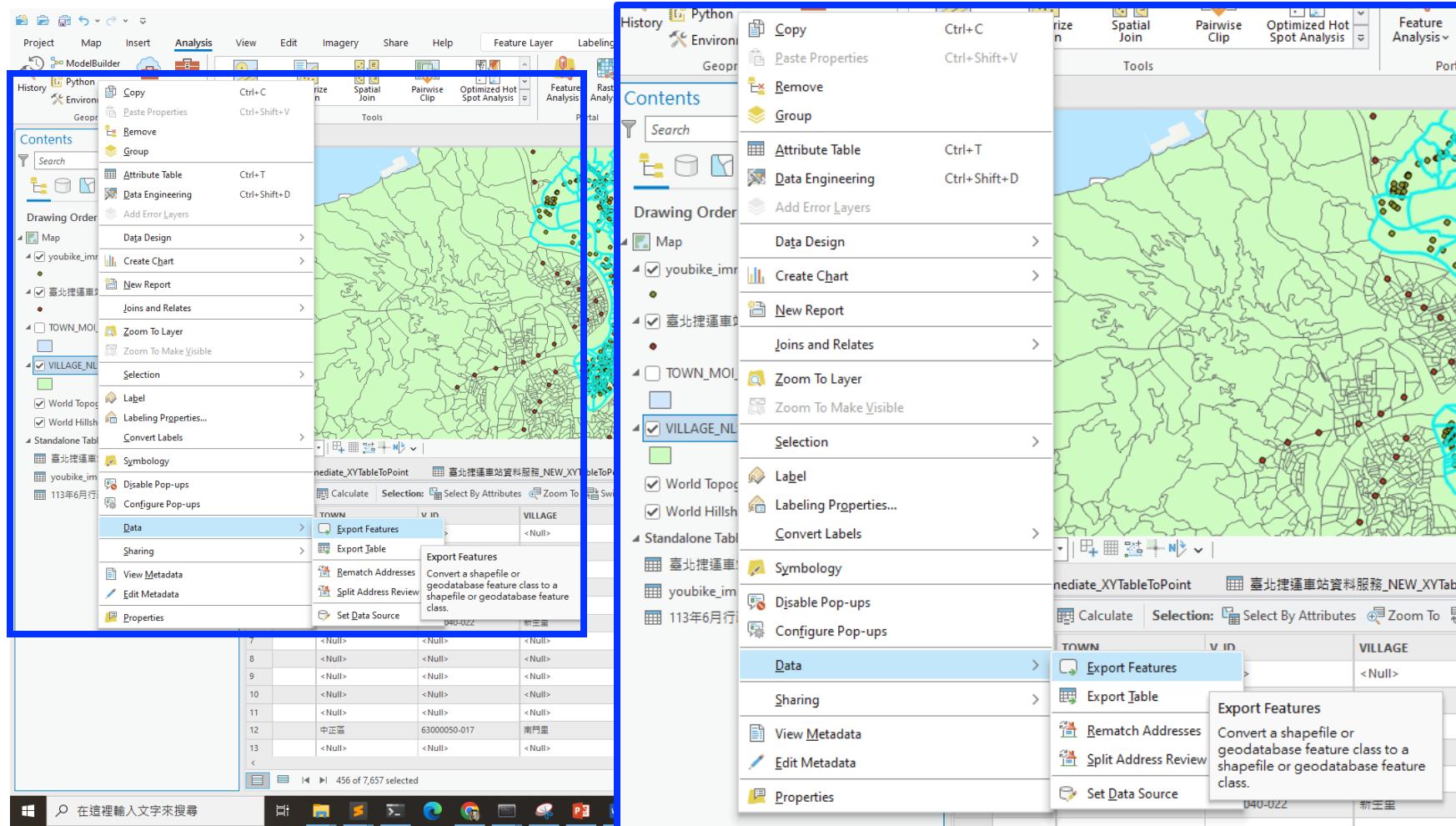
Select by Attributes :: Select “臺北市”



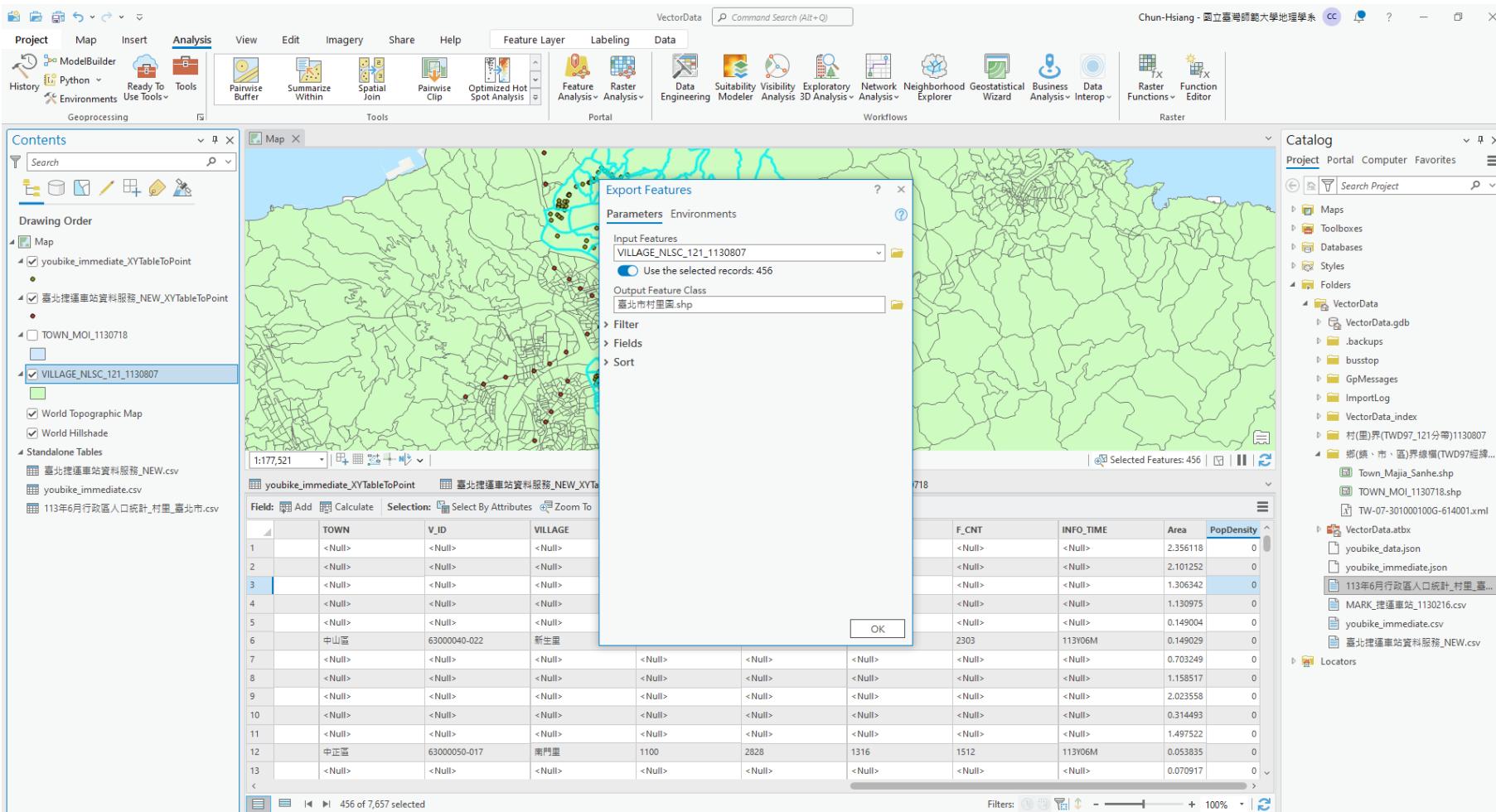
Select by Attributes :: Select “臺北市”



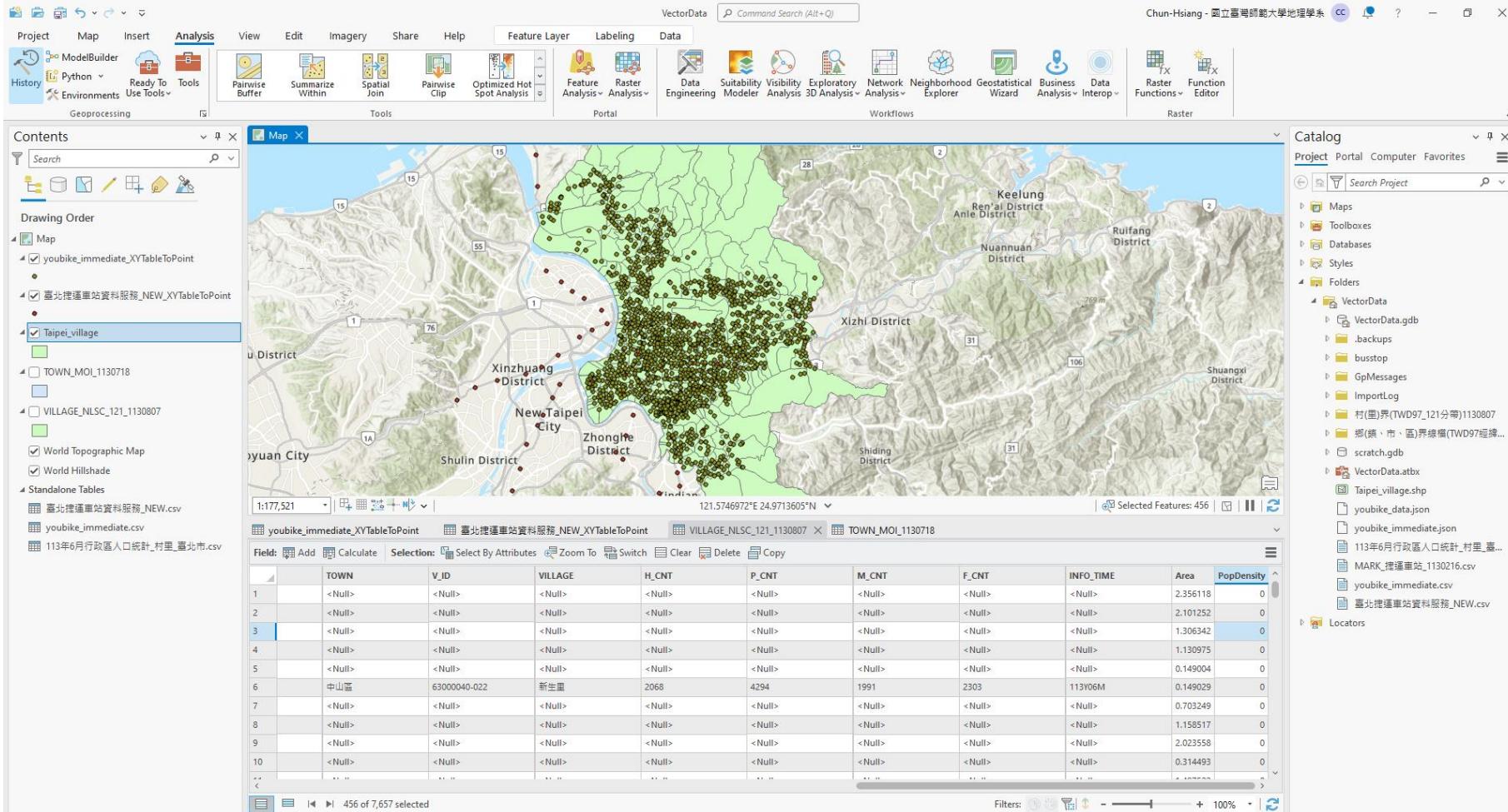
Export Features



Export Features

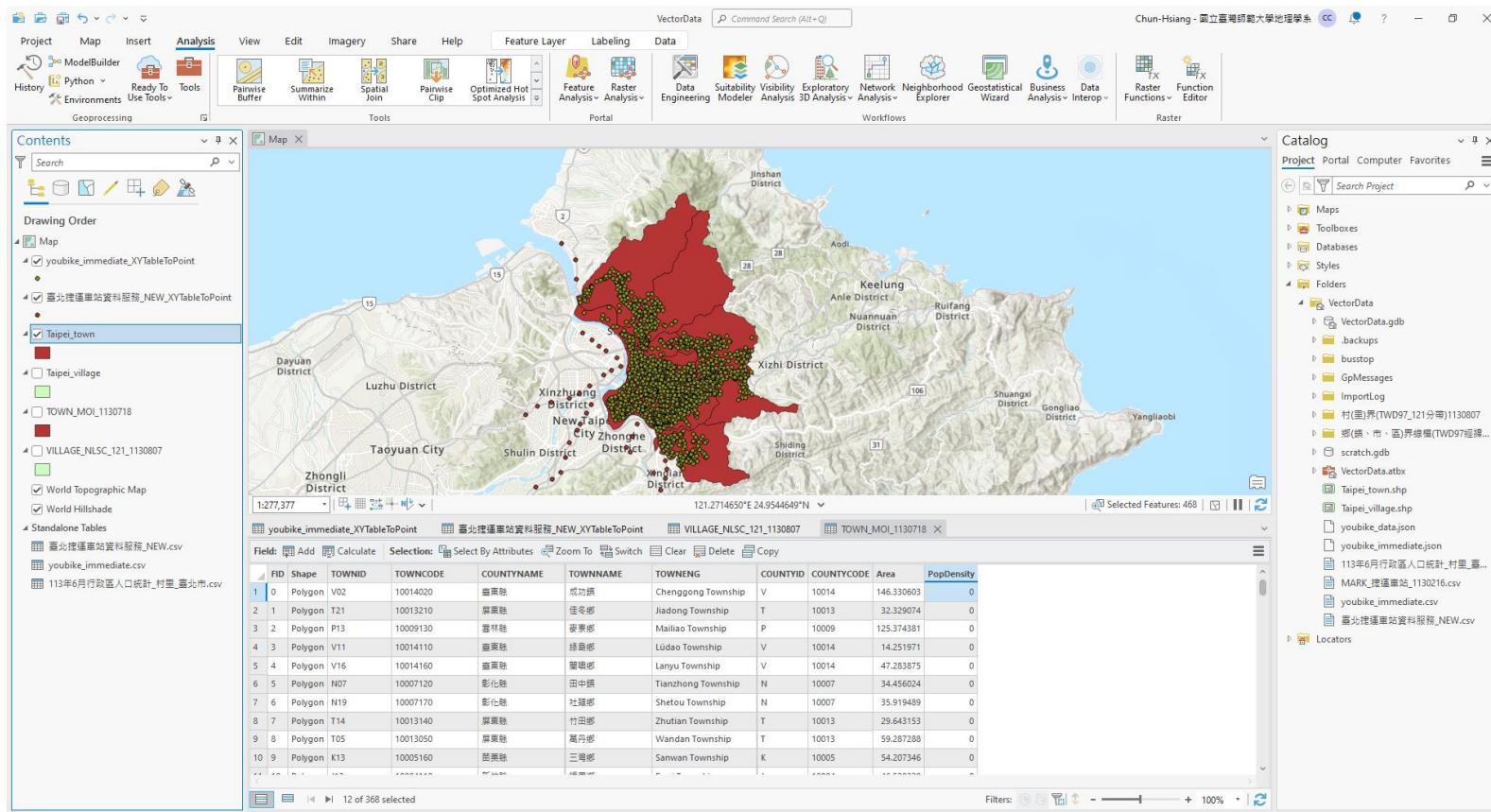


Results of Feature Exportation



Export Features

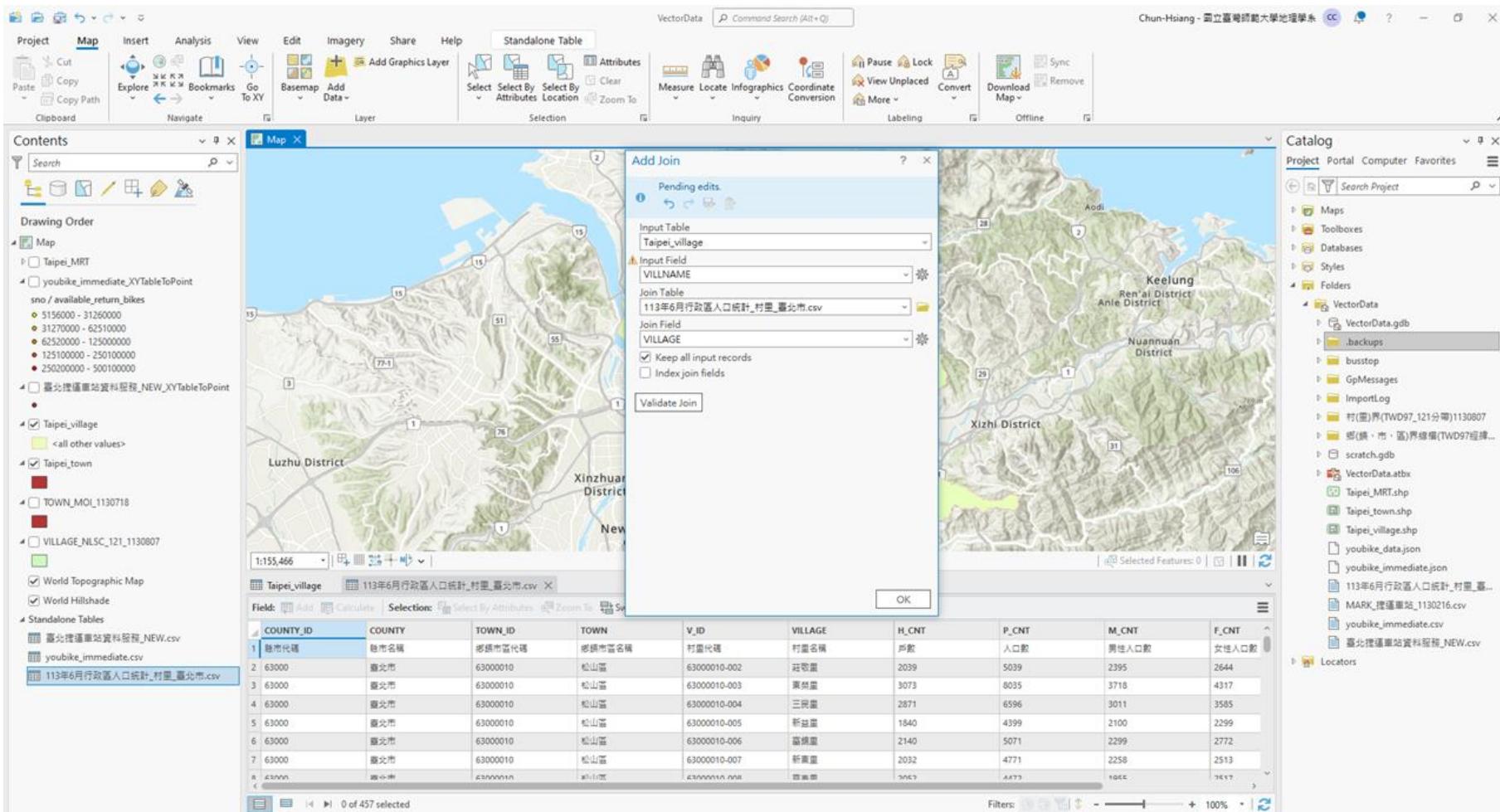
- Do again for Taiwan Town Data



Type Conversion & Field Calculation

Calculate Population Density

Add Join “Population” to Village

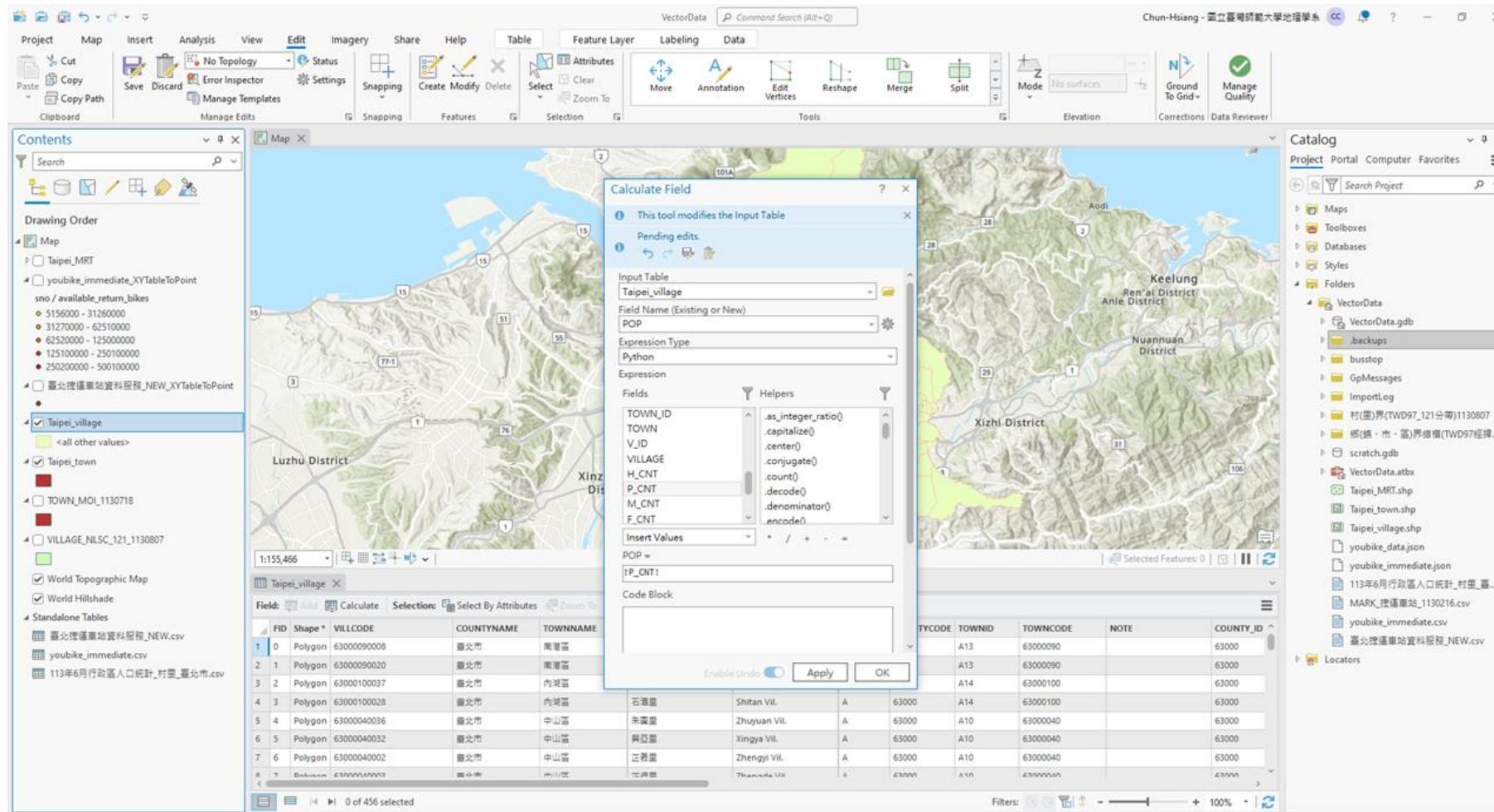


Add Field and Name with “POP”

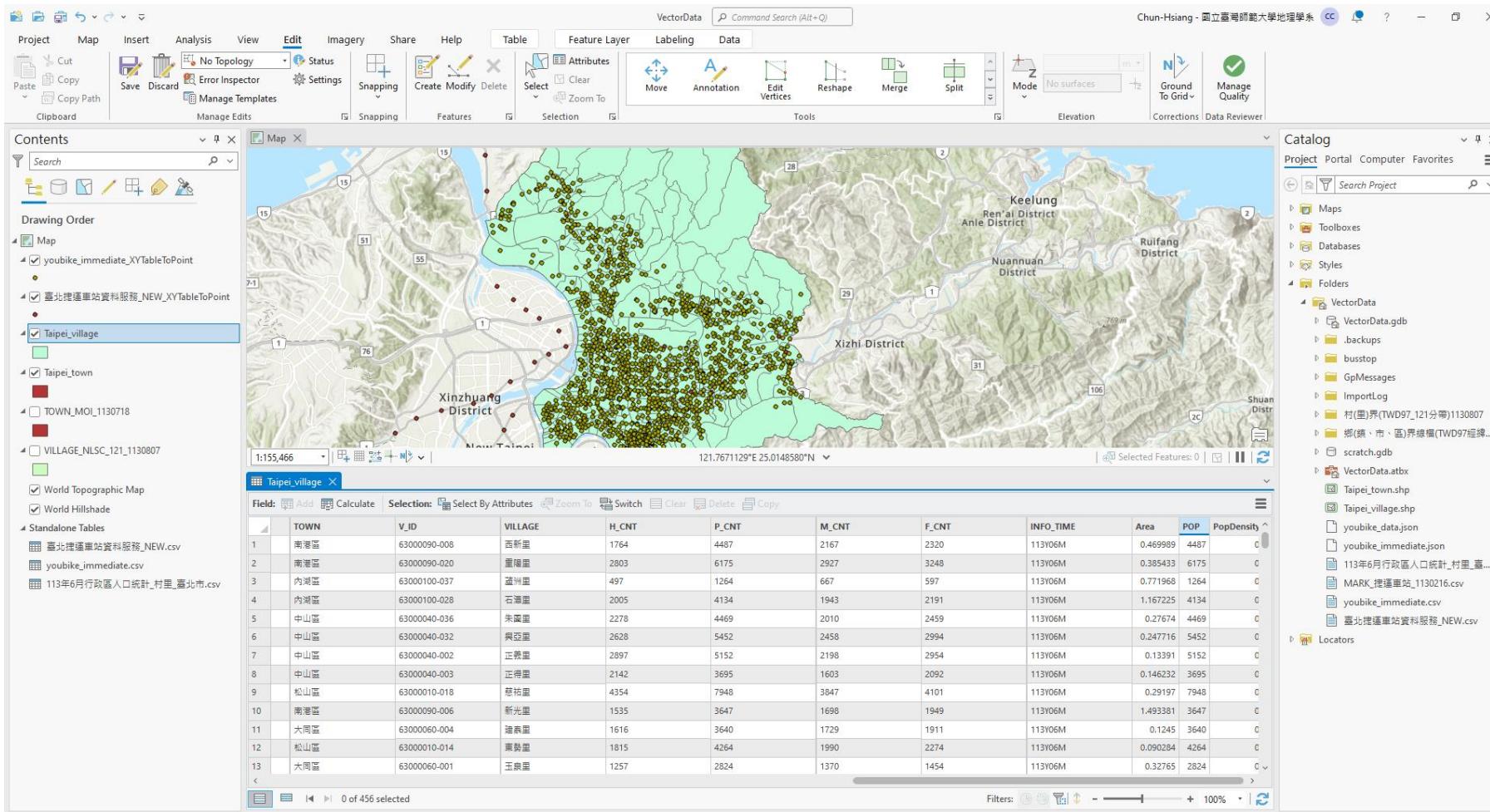
The screenshot shows the QGIS interface with the 'Fields' tab selected for the 'Taipei_village' layer. A new field 'POP' is being added at the bottom of the list. A callout box highlights this field with the text: 'Text data cannot process numeric calculation'.

Visible	Read Only	Field Name	Alias	Data Type	Allow NULL	Highlight	Number Format	Default	Precision	Scale	Length
<input checked="" type="checkbox"/>	<input type="checkbox"/>	TOWN_ID	TOWN_ID	Text	<input type="checkbox"/>	<input type="checkbox"/>			0	0	254
<input checked="" type="checkbox"/>	<input type="checkbox"/>	TOWN	TOWN	Text	<input type="checkbox"/>	<input type="checkbox"/>			0	0	254
<input checked="" type="checkbox"/>	<input type="checkbox"/>	V_ID	V_ID	Text	<input type="checkbox"/>	<input type="checkbox"/>			0	0	254
<input checked="" type="checkbox"/>	<input type="checkbox"/>	VILLAGE	VILLAGE	Text	<input type="checkbox"/>	<input type="checkbox"/>			0	0	254
<input checked="" type="checkbox"/>	<input type="checkbox"/>	H_CNT	H_CNT	Text	<input type="checkbox"/>	<input type="checkbox"/>			0	0	254
<input checked="" type="checkbox"/>	<input type="checkbox"/>	P_CNT	P_CNT	Text	<input type="checkbox"/>	<input type="checkbox"/>			0	0	254
<input checked="" type="checkbox"/>	<input type="checkbox"/>	M_CNT	M_CNT	Text	<input type="checkbox"/>	<input type="checkbox"/>			0	0	254
<input checked="" type="checkbox"/>	<input type="checkbox"/>	F_CNT	F_CNT	Text	<input type="checkbox"/>	<input type="checkbox"/>			0	0	254
<input checked="" type="checkbox"/>	<input type="checkbox"/>	INFO_TIME	INFO_TIME	Text	<input type="checkbox"/>	<input type="checkbox"/>			0	0	254
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Area	Area	Double	<input type="checkbox"/>	<input type="checkbox"/>			Numeric	0	0
<input checked="" type="checkbox"/>	<input type="checkbox"/>	PopDensity	PopDensity	Double	<input type="checkbox"/>	<input type="checkbox"/>			Numeric	0	0
Click here to add a new field.											
<input checked="" type="checkbox"/>	<input type="checkbox"/>	POP	POP	Double	<input type="checkbox"/>	<input type="checkbox"/>					
Click here to add a new field.											

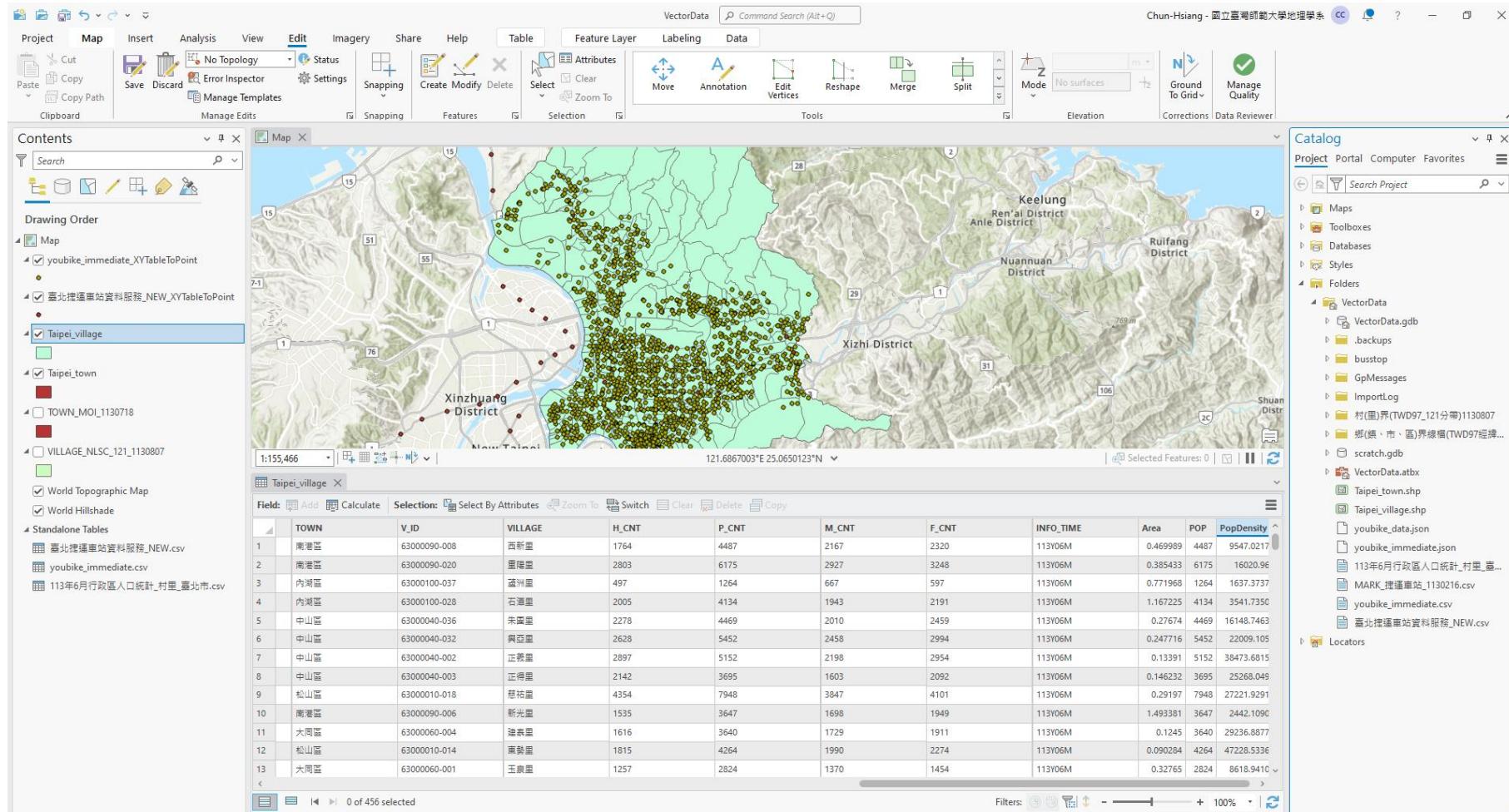
Calculate Field and Type Conversion



Results of Numeric POP



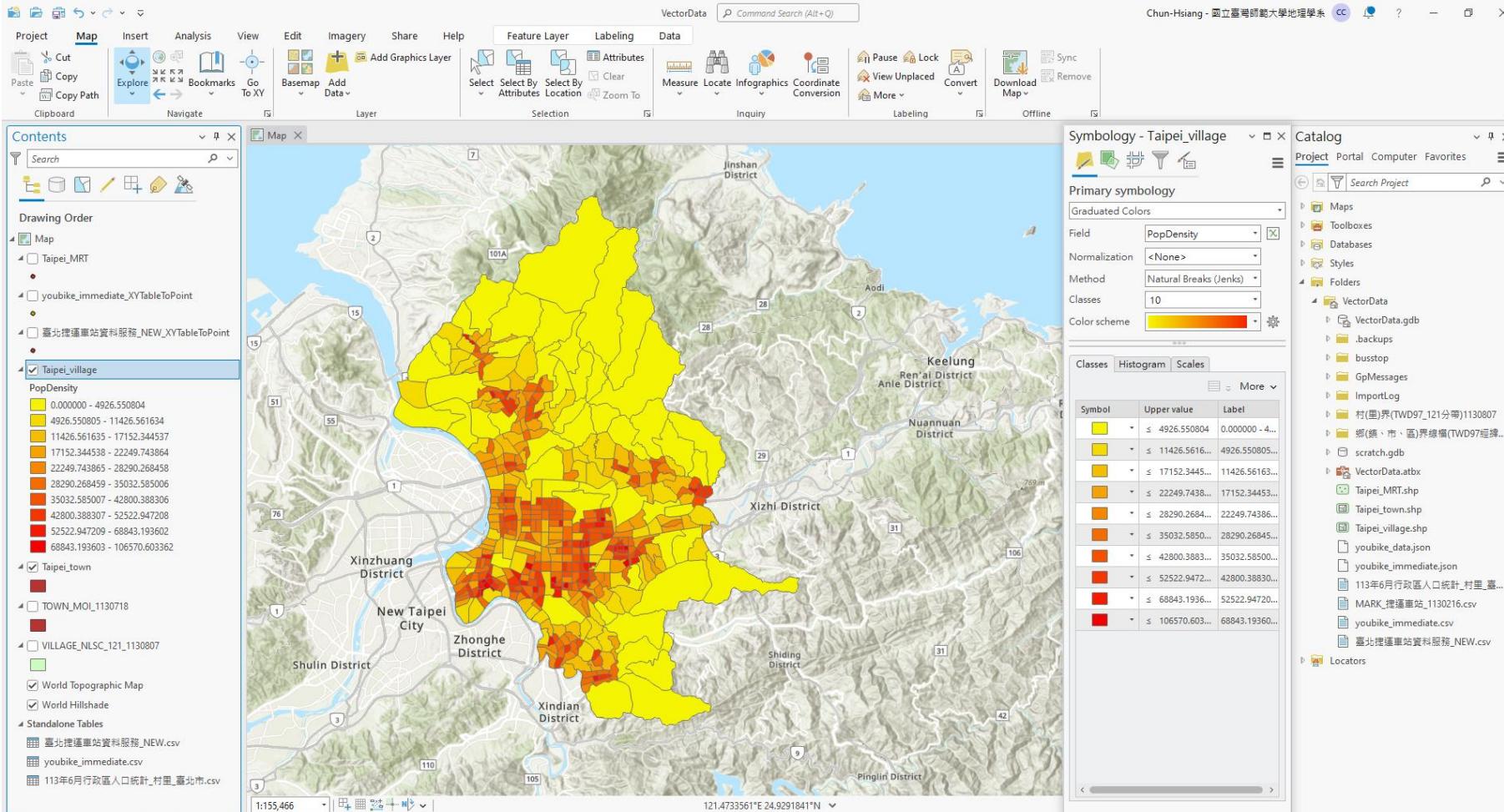
Use “Calculate Field” to Calculate “PopDensity”



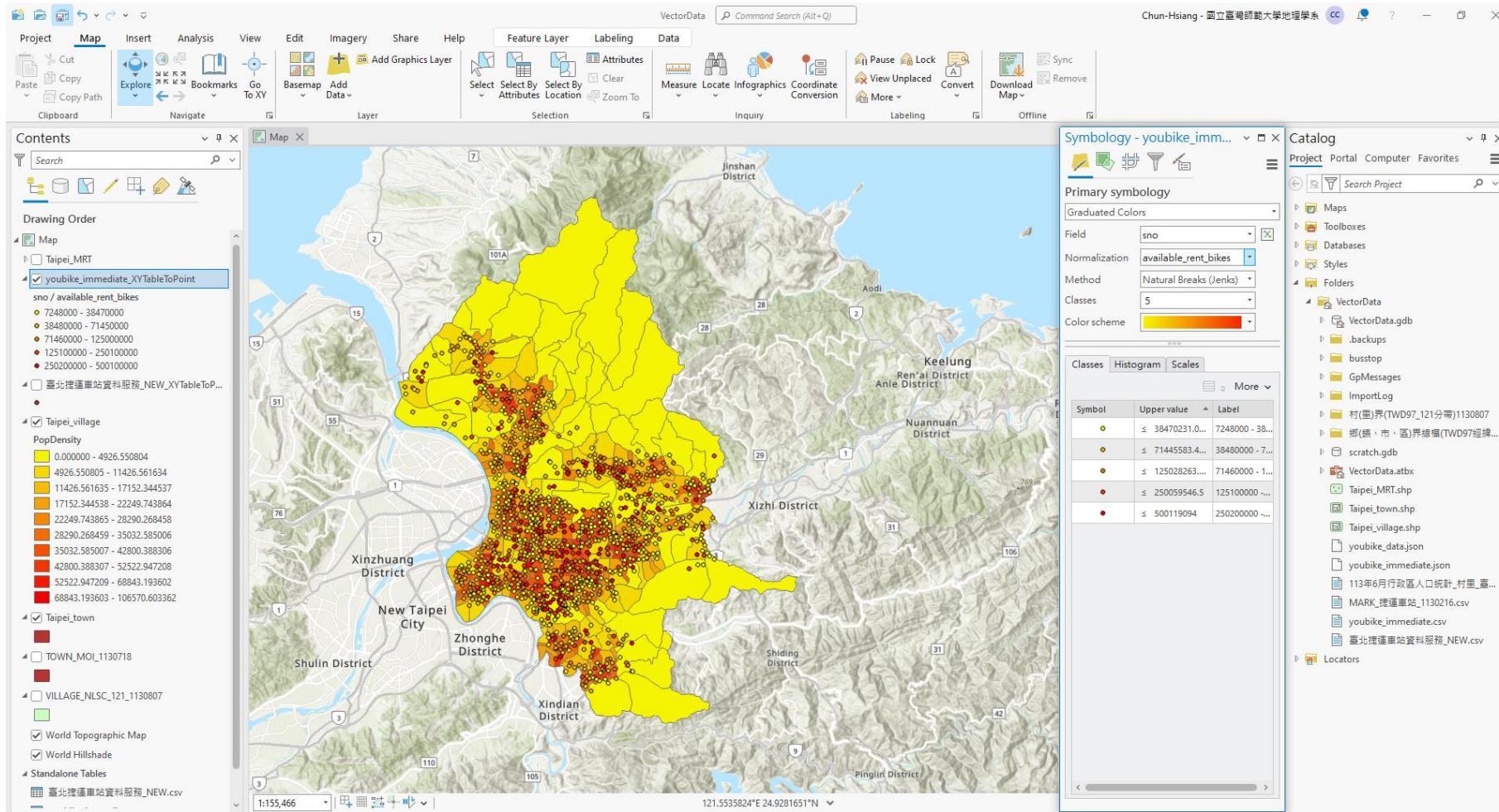
Symbology

YouBike Rental
Population Density

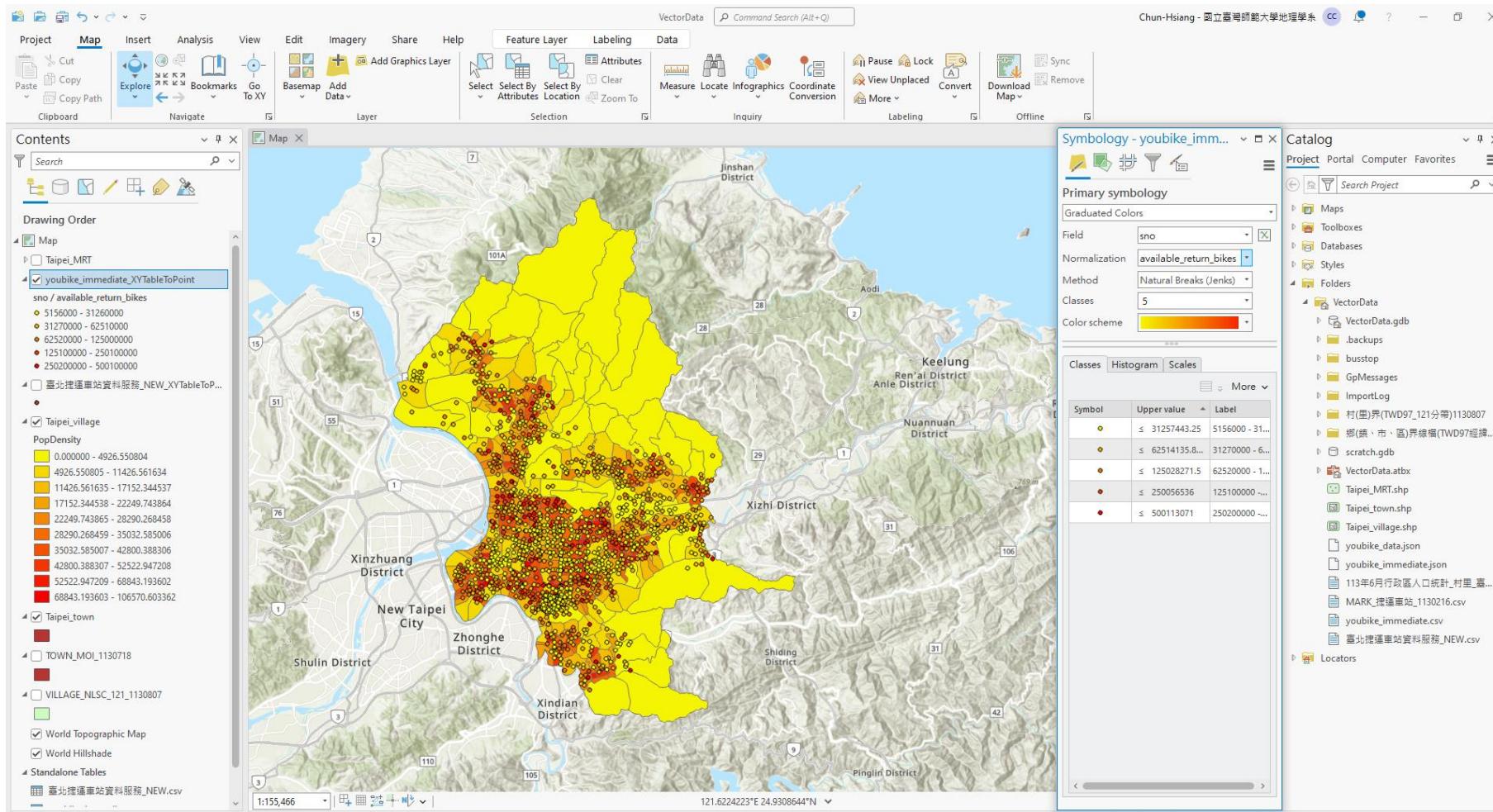
Population Density Distribution



YouBike Rent Distribution



YouBike Return Distribution



The End

Thank you for your attention!

| Email: chchan@ntnu.edu.tw
Web: toodou.github.io